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OBSTETRIC NURSING

MARIAN HUMFREY

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A MANUAL
OF
OBSTETRIC NURSING.

BY

MARIAN HUMFREY

BRITISH LYING-IN HOSPITAL; DIPLOMA LONDON OBSTETRICAL SOCIETY;
REGISTERED MEMBER OF THE ROYAL BRITISH NURSES' SOCIETY,
AND FORMERLY OF ITS REGISTRATION BOARD.



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The gracious favour your Royal Highness has extended to my efforts to carry out both these important ends, by accepting the Dedication of my work, is most gratefully appreciated by,

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The ailments and defects of the newly-born also form a part of the second division of my subject.

The kind favour with which my former work was received by the Medical and Nursing Professions encourages me to hope that the completed work will prove equally worthy of their attention; that it may meet a want, and be a strength to all workers in Midwifery Nursing is the first aim and highest wish of

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CONTENTS.

VOL. II.



PART I.—MATERNAL.

	PAGE
CHAPTER I . POST-PARTUM HÆMORRHAGE	I
CHAPTER II . PRÆ-PARTUM HÆMORRHAGE. . . .	17
CHAPTER III . PHLEGMASIA DOLENS	27
CHAPTER IV . PUERPERAL CONVULSIONS	46
CHAPTER V . PUERPERAL FEVER	55
CHAPTER VI . PUERPERAL INSANITY	65
CHAPTER VII. LESIONS	70



PART II.—INFANTILE.

CHAPTER I . MAL-PRESENTATIONS. . . .	92
CHAPTER II . PREMATURE AND STILLBIRTHS . . .	97
CHAPTER III. INFANTILE AILMENTS	109
CHAPTER IV. CONGENITAL MALFORMATIONS . . .	163
INDEX	, 201

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—THE LANCET, *May 25, 1895.*

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A MANUAL OF OBSTETRIC NURSING.



PART I.—MATERNAL.

CHAPTER I.

POST-PARTUM HÆMORRHAGE.

CAUSES OF—TREATMENT OF—RESTORATIVES—REPOSE—DIET—
STIMULANTS, USE OF—THIRST, BEST DRINK FOR—
NARCOTICS, ABUSE OF—GENERAL CARE OF PATIENT—
CONVALESCENCE.

THE first subject I shall bring before your notice is post-partum hæmorrhage. I have touched upon it in an early chapter (Chapter III., page 25, vol. 1), so far as to show what precautions should be taken to prevent or, if that be not possible, to arrest it with the utmost promptitude, by endeavouring to excite the muscular contractions of the uterus, and that the chief stimuli upon which we had to rely to promote these were cold and manual pressure, the cold applied to the vulva, the pressure to the uterus through the abdominal walls. In addition to these compression of the aorta has sometimes been resorted to. Besides these topical remedies *secale* was freely administered. There were times, however, when the muscular contractions could not be

aroused—a condition that midwifery writers describe as inertia, and in extreme cases, uterine atony or want of tone, when the uterus can neither be felt nor defined by pressure, and in which the torrent of blood pours forth with resistless force, and the patient's life with it.

It was reserved for the medical science of our day to meet this supremely dangerous complication of childbirth by topical and *internal* remedies, applied by means of intra-uterine injections to the exposed surfaces of the uterine vessels. These remedies were of two kinds, chemical or physical, and their use and introduction are due to German genius; but in England it is to Dr. Robert Barnes that we owe their general adoption into midwifery practice, especially the intra-uterine injection of perchloride of iron, with which his name is indissolubly associated. The chemical was mixed with cold water, and sent into the uterus by a Higginson's syringe, to which was attached a vaginal tube. The solution acted as a styptic, and the exposed uterine vessels became plugged by innumerable thrombi, the result of the coagulation of the blood, which is the *rationale* of the application. Physical agents, such as cold or iced water, were injected into the uterus for the purpose of *exciting* contraction; and sometimes the mere introduction of the hand into the cavity of the uterus will have the same effect; but these were not in any way *blood coagulating remedies*, and were not reliable in cases of extreme inertia or atony. I wish my nursing readers to particularly notice this point. I have in Vol. I, Chapter VII. p. 112, described the mode of giving antiseptic intra-uterine injections, and a very brief explanation of the mode of giving hæmostatics will suffice. It is at critical conjunctures like these that the difference between a *well*-instructed nurse and a "sham" one shines with greatest lustre, and no one more than an accoucheur appreciates the former, for a calm, sensible woman is of the greatest service to him in times of danger.

We will assume that the hæmorrhage comes on suddenly, immediately after delivery, the patient being in the position I described to you in Vol. I, Chapter I, p. 13; and if you will thoughtfully refer to it you will see the importance of *every* detail as to the preparation of patient, bed, and *room* for labour. The first efforts of the accoucheur will be

directed to arrest the hæmorrhage by the application of cold ; and as the uterus must not be left unguarded for a moment—the doctor's strength of hand being more serviceable for that task than yours—the nurse must take the douching. I prefer it done in this way. You have a basin of cold water placed on the floor near the bed ; you take a napkin, and immersing it in the water, wring it lightly out, and place it close to the vulva, and partially in the vagina, and press it well in. Some accoucheurs like to place a wet napkin over the uterus, but I find that dipping the hand frequently with cold water and compressing the uterus with it the better plan, as you can watch the amount and *duration* of the contractions. The nurse continues the douching as long as she is told ; the doctor finds he will have to inject, and she must prepare for it, acting according to medical directions as regards the strength of the solution of perchloride of iron, and the quantity of cold water to be added to it ; and as a rule the doctor has this chemical in his obstetric bag. You get ready the syringe, fixing on the long No. 10 male elastic catheter, charge it, and bring it and the basin close to the bedside ; the doctor leaves the uterus, and, coming to the right side of the bed, and just to the front of the patient, the nurse places the basin on the bed and holds it there, near to him, but not in *any way* impeding the free action of the doctor's right hand and arm, with the left he inserts the catheter tube into the uterus. You take no thought of the returning fluid, for if the instructions I gave you were followed out, neither bed, bedding, nor carpet would be damaged thereby.

The result of the operation is the instantaneous arrest of the hæmorrhage. You take away the basin and syringe, the doctor stands guard over the uterus, and you give aid to the patient. Place a clean warm napkin under the nates and another to the vulva. The doctor firmly presses upon the uterus to squeeze out any fluid or coagula that may remain in its cavity, and you watch the amount of discharge as it falls upon the napkins. If they are quickly saturated renew them, and when the flow abates attend to the patient, whom you will find pallid and faint. Remove the pillows from under her head, loosen the night-dress from her throat and chest, and give her a glass of cold water (the thirst after

hæmorrhage is most distressing), open the window of the room, and gently fan the patient's face.

And here I must remind my young nursing readers that syncope or faintness by retarding the heart's action, and so reducing arterial action is the natural mode of arresting hæmorrhage from *any* cause, and we must closely watch the effect it has on the patient by marking her pulse.

The next point is stimulation, and this must be *implicitly* placed in the doctor's hands. The usual and best stimulant is pale brandy, given in small quantities at a time. Nothing could exceed the reckless, headlong, ignorant way in which brandy *used* to be given in these cases, as much as a pint or *more* being poured down a woman's throat in the course of half an hour, by these "heroes of the day," to save (?) her life—and kill her afterwards! Nature, with infinite wisdom, was retarding the heart's action, and science (?) was doing her best to accelerate it. Why do we give brandy at all in these cases? To *maintain* the heart's action when the pulse shows it is likely to stop, by a little gentle aid from time to time. The *first* and truest restorative is plain cold water (I have never seen that ejected), then brandy and water in tea-spoonfuls at a time, say intervals of five or ten minutes. If you give milk and brandy *too soon*, they are rejected, and the patient further weakened by vomiting. It is useless to burden the stomach with food; we cannot get back the vital power all at once; we must be patient and vigilant, not reckless and thoughtless. Whilst the faintness continues the window must be kept open, and all the air got into the room possible; cover the patient over with a blanket. We cannot move her until her strength is somewhat restored; the patient should be placed in the recumbent position as soon as possible, and as the styptic will prevent the recurrence of the hæmorrhage, we must act as soon as the pulse gives us permission (?)

Before entering fully into the nursing duties required after cases of *severe* post-partum hæmorrhage, I must make a little digression, to bring under your notice another and widely different remedy (although we pursue the same method) that has for many years steadily grown into favour in midwifery; and, as midwifery nurses, I am anxious to bring it before your notice, as well as the great styptic agent we have just been discussing.

We will now turn to another and more recent agent for controlling puerperal hæmorrhage, the very reverse of the first, for we inject *hot* water into the uterus instead of cold! Some accoucheurs add one or two tablespoonfuls of vinegar or a teaspoonful of powdered alum to the water, on account of their astringent qualities; but do not *wait* for these additions, for you will lose time if you go away to fetch them, and at times like these moments are momentous indeed! I have reminded you in Vol. I, Chapter I, p. 8, always to have a kettle of boiling water in your room or the labour room, and now you see one of the advantages of it. You will require from three to four pints of water in order to keep the suction pipe of the enema *well* under water, and the doctor will use what he wants. As to temperature of the water, 120 degrees Fahr. has been given as a standard, but a nurse must have a readier way than that; the thermometer may not be available in time, and she must learn to judge by touch. To do this accurately, place your hand palm *upwards*, *covered* to the wrist with water, at the *bottom* of the basin, and *keep* it there for a few seconds; the water should feel quite hot—only *just* bearable, in fact; you then charge the syringe, and take it and the basin to the bedside for the doctor to inject the water into the uterus.

My nursing readers may ask the *rationale* of this strangely opposite treatment of uterine hæmorrhage; the hot water acts in a totally different manner to the perchloride of iron—the iron is a chemical styptic, the hot or cold water a stimulant to the muscular fibre, producing a sort of puckering up of the uterus. To illustrate my meaning, suppose we take a piece of raw beef, fresh and full of blood, and plunge it into boiling water, and after a few minutes' immersion lift it out of the water. What do we observe? A change in hue; the redness has gone, and the flesh presents a sort of rugous appearance that is peculiar to all boiled meat, and is attributable to the coagulation of the albumen and contraction of the muscular tissue. Whatever may have suggested the theory of this hæmostatic, the practice has yielded magnificent results. The hot water remedy not only stops the bleeding, but it appears to invigorate the patient, and we get none of the bad after effects of the older refrigerating measures.

There is one precaution to be observed whatever remedy you use to arrest puerperal hæmorrhage—the uterus *must* be emptied of clots, either by pressure on the uterus, or sweeping the coagula out with the hand *before injecting*.

Before leaving the subject of intra-uterine injection, I will just bring before your notice the glass vaginal tubes now so much used in midwifery nursing, instead of the familiar gum-elastic ones. In practical midwifery we cannot *rely* upon them on account of the risk we run in breaking them by taking them about with us, and we might from that cause find ourselves defenceless in time of sore need. It is different with nursing. You can always have them ready to hand, and for antiseptic intra-uterine injections they are much to be preferred, as we can boil them, or treat them with strong acids for the purpose of disinfection, which is impossible with other catheters or vaginal tubes. The glass ones are of different lengths and various shapes; some are slightly curved, which is an advantage; some are sigmoid in form, though I do not quite know the reason why, but it is of no use in hæmorrhage cases. The vaginal glass tube I have is nine inches long—three inches longer than the ordinary gum-elastic tube. At the lower end is a piece of india-rubber tubing four inches long, by which we attach it to the nozzle of our enema, which altogether gives us an injection tube of *fourteen* inches, a clear gain of *eight inches* in length, a most notable advantage in cases of *intra-uterine* injection, whether for antiseptic or hæmostatic purposes, as we can pass the tube up to the fundus, and thoroughly wash out the cavity of the uterus. There is one matter I must point out to you; when you select a piece of india-rubber tubing for attachment, see that it fits the *nozzle* of your enema easily and well; in fact, get a piece of tubing, and take it with you, as well as the *vaginal* tube. A neglect of this precaution has sometimes to my knowledge led to serious delay in cases of post-partum hæmorrhage.

Let us return to our patient, whom we left lying upon her back, with her head as low as possible. The symptoms of severe hæmorrhage are extreme pallor, faintness, falling pulse, and coldness on the surface of the skin, one of the physical effects of loss of blood being a subtraction of

heat from the body, due to the feeble action of the heart impeding the oxygenation of the blood. Yawning, as marking nervous depression, is a frequent symptom; the worst is restlessness, the arms being thrown about, generally over the head. As soon as the doctor gives permission for the patient to be moved and placed in the recumbent position (and we can do this much sooner under the modern treatment of hæmorrhage than we did of old), your first duty will be to restore surface warmth to the skin. The patient must be wrapped in a small blanket or large woollen shawl made hot, and hot water placed to her feet. Put on the binder as soon as possible in these cases. I usually compress with a piece of flannel made warm and placed over the abdomen, The binder must be pinned over it as tightly as possible, placed well over the hips and below the thorax. The head must be low and the feet raised on a pillow to a level with the hips; warm napkins placed to the vulva. There is no need to fear any recurrence of hæmorrhage after intra-uterine injection, and the patient must be kept *warm*; nor should cold drinks be continued. The refrigerating measures for treating hæmorrhage that used to prevail caused reactionary fever, due generally to rough mechanical kneading of the uterus, and often led to fatal results. Women were allowed to remain *for hours* on the saturated draw-sheets, and in some cases that came under my knowledge the whole of the lower part of the body was left exposed, and only *cold, wet* napkins put to the vulva. Modern science has done away with these horrors, and led to the happiest results as regards the recovery of our patients.

The next point is to secure repose; and here a nurse must have the aid of every adult member of the household. No sounds must be heard, no intrusion permitted into the lying-in room, except the husband or very near relative. If in the country, and weather permits, keep the bedroom window open top and bottom, for there is nothing will such "a slumbrous influence rest," as the soft, sweet, pure, sun-warmed air that seems almost to caress lovingly the pale, fair face of the sufferer, just, and only just restored to life! In large cities we cannot get quietude for our patients any more than pure air, the only consolation we find in these

cases being that town dwellers are so accustomed to street noises they do not disturb their slumbers, either in sickness or health. We have secured warmth, repose, and fresh air. We must now turn to feeding, which must be done with the greatest care and patience. We have a tedious reparative task before us, and we must "make haste slowly." To bring this matter home to the minds of my younger nursing readers, let me give them a little homely illustration of it. You go into your room and find the fire has gone down so low you can scarcely tell whether it is alight or not. How would you proceed to fetch it up? Not by putting half a scuttle of coals on *at once*, that would extinguish every spark of fire left! You would begin by using the most easily combustible materials *first*, such as matches, paper, sticks, *small* pieces of coal, renewing them cautiously; and in due time you would be rewarded by having a bright little fire. Just so with that poor feeble spark of life that has gone down so low we scarcely know whether it be extinct or not—we must strive to fan it into life with tender, gentle hand, and hope for our reward in the recovered health of our patient. We have as nurses but little to do with medication, but I may as well tell you what drugs are most often used in cases of post-partum hæmorrhage, and why. Opium, to tranquilise the nervous system; salines, especially citrate of ammonia, to act on the blood, and counteract a tendency to over fibrination, that is one of the sequels of hæmorrhage. We must bear this fact in mind in giving foods also. Pure turpentine given in ten minim doses on a lump of sugar is a reliable hæmostatic and nerve tonic in *all* cases of uterine hæmorrhage; given three times a day or every six hours for a time, is much commended by some medical practitioners.

Let us digress for a few moments to touch upon the anatomy of the bladder. It is a pelvic organ, a hollow muscular bag lying in front of, but somewhat below the uterus, the urethra running in an oblique direction under the pubic arch, and merging into the bladder, which, when distended, rises about half its height above the symphysis pubis. During the expulsive pains of labour the urethra is apt to become injuriously compressed between the head and the pubis, leading to inflammation and swelling, which renders

micturition at once difficult and painful. In this case the following method will afford relief:—Put a drachm of boracic acid into a pint of hot water, with which dip and wring from as dry as possible a piece of clean soft flannel or small sponge, and apply either *over the orifice* of the urethra, not merely over the vulva, as is usually done. If these fomentations are continued for an hour or two, the water may flow from the bladder without any more trouble. If not you must pass the catheter in the way I described to you in a former paper. I generally run a little carbolated oil, or vaseline, along my catheter before inserting it, and I find this antiseptic subdues the swelling and pain. Parturition will sometimes weaken the muscular power of the bladder, and by over stretching of its walls by distention with urine, its natural contractibility is impeded; and I particularly impress this fact upon my young nursing readers, for if overlooked it must lead to very serious consequences.

This trouble occurs most frequently in primipara, and as the distention is not in this case accompanied by the painful pressure symptoms we have just adverted to, a nurse must exercise vigilance on behalf of her patient. The signs that mark over distention are to be found out by palpation. Place the palm of your hand over the pubis, and you can distinctly make out the fundus of the bladder, and a slight amount of pressure on it will give rise to pain. Sharp tapping on the fingers of the left hand with the finger tips of the right will cause a dull sound as with a barrel full of water, whereas if the bladder be empty the hollow sound of gaseous distention will be heard. If the bladder be full you must at once evacuate it by catheterism. Palliatives are of no use here, and delays are hazardous, and you must impress these facts upon the mind of your patient and her friends. I have frequently rescued women from this peril, and in the teeth of opposition had to insist upon catheterism in lieu of half a dozen proposed remedies which are of no use at all. Always *see the urine* which such a patient passes and *note its quantity*.

What shall be the first nourishment given? Milk-gruel, which I think, upon the whole, it is wiser to have boiled, and cooled down, and given tepid, slightly sweetened, and *peptonised* with a zyme powder. Alcoholics only to be added under medical direction. A teacupful of milk at a time,

every two hours, if the patient be awake. Never waken her to give food, slumber is as important as food. Nature's sweet restorer can never be surpassed by anything else. Our next change, second day, will be strong broths, such as beef tea and chicken broth, the last is very delicate and nutritious if properly made; you can add a little of the *best* isinglass; teaspoonful dissolved in a little hot water; and *then* added to half a pint of beef tea, or you can thicken either broth with arrowroot. To drink toast-water at first, afterwards barley-water acidulated with lemon juice, and later on ærated waters. As *absolute* repose in the recumbent position is imperative, all nourishments must be given through feeder or feeding tubes. The state of the bladder will require regular attention, and we may require catheterism, which being an important part of midwifery nursing, we will enter into somewhat fully. We use the catheter in our portion of nursing work most commonly under three conditions—retention simply, most frequently met with in primapara, certain lesions, and after severe post-partum hæmorrhage, when it is *essential* that the patient should be kept in the recumbent position for at least twenty-four hours after delivery, which is the case now before us. The first question is how soon after delivery shall we relieve the bladder? We can only answer this question by asking others; how long was it *before* delivery that the bladder was relieved? How much water has been passed since delivery? How soon *after* delivery did pressure symptoms show themselves? Speaking generally, the longer we can defer using the catheter, other things being favourable, the better, from twelve to fourteen hours being none too long. Supposing delivery took place at 2 a.m., the following afternoon at 4 p.m. might be soon enough. Let us now consider what is the best way to use the catheter.

There are, as you know, two kinds of catheters used in surgery, called male and female respectively, and there are a number of materials used in making them. In our branch of work those most frequently used are gum elastic, metal, including silver, celluloid, and glass. I like the glass ones, and there is no reason why a private or hospital nurse should not use them, but in midwifery work the same objection holds good with them as with glass vaginal tubes,

liability to breakage. Selecting then a red-rubber male catheter, No. 9 to 12, we will adapt it to our work. When about to use it we take out the stilet, and fix on to the catheter a piece of india-rubber thick quill tubing about forty-five inches long, and we place the whole in a chamber by the bedside; they must then be covered with some sublimate antiseptic solution (1 to 500). You will require a *quart* of water for the catheter and the tubing and your hands. It has been objected to the use of tubing that it is an excellent medium for the conveyance of infection; quite so! if you are *not* careful, and the same may be said of all that you use, hands included. How will you disinfect the inside of the tubing? for this is the gist of the objection; it is easy enough to do the outside. In this wise: get a small glass funnel to fit your tubing, and insert it into one end of same; then pour through it two or three ounces of your sublimate solution (1 in 500), hang the tubing over a towel-horse to drain, and then put it into the sponge bag with your enema, so as to keep it as much as possible from casual defilement. All such apparatus should be kept wrapped up in a clean freshly boiled towel.

Having prepared your catheter and tubing, you must position your patient. She must lie on her back and close to the edge of the *right* side of the bed, having her knees drawn up. Bring an empty chamber to the bedside, and put the tubing in it. Dip both your hands up to the wrists in the antiseptic solution. Rub a little vaseline along the whole length of the catheter, which you pass *longwise* under the bed-clothes and on the index finger of your *left* hand, and, placing it over the pelvis, you separate the labia from above downwards, and just above, and a little backwards from, the vaginal entrance you will soon feel the orifice of the urethra. Take the catheter in your *right* hand, which you pass beneath the bed-clothes and under the *right* thigh of your patient, and, guided by the tip of the index finger of your *left* hand, gently insert the tube into the meatus, and then slowly push it home. But *no attempt* must be made to pass the tube until you have clearly defined the orifice of the urethra. It is this clumsy fumbling with the catheter that occasions sometimes injury, and invariably pain and discomfort to the patient. Remove your left hand, and

keep the tube *in* the bladder with your right. In my practice I pass the catheter well into the bladder to the fundus. There is sometimes a little vesical displacement after labour, and sometimes the muscular action of the bladder is weakened, and I find a *careful* exploration serviceable in both instances, as it is most important that the bladder should be *thoroughly* evacuated in order to avoid catheterism as much as possible. Withdraw the tube as gently, slowly, and carefully as you inserted it. There must be no hurry over the operation from first to last. Remember these manipulations must *all* be done without the slightest exposure or risk of chill, and with the least possible amount of discomfort to the patient. There are fewer difficulties in catheterism after post-partum hæmorrhage than any other conditions of childbirth. We resort to it as a measure of prudence rather than necessity. The patient's life is in no peril for the want of it, as it is where the urethra is bruised and obstructed. Under ordinary circumstances, and if thoroughly done, you will find once in twelve hours—that is, night and morning—quite sufficient for passing the catheter. I have dwelt minutely on this subject because, in Obstetric Nursing, we do not require catheterism often, and you are apt to forget your hospital instructions; and I advise you to get your lesson by heart, and then you can practise it as often as is necessary. It is most important for the comfort, not to say safety, of her patients that a nurse should be an expert in this portion of her duty.

Our next care will be to consider when we shall change our patient. If my readers will refer to my chapter on the preparation of the patient for labour, they will see, if those directions are carried out, how important they become in times of trouble, and we shall find that we can leave, and safely leave, our patient quiescent for twenty-four or thirty hours after delivery, *perfect repose* being a first necessity after puerperal hæmorrhage. Say a patient was delivered at 2 a.m. on a Monday, the following Wednesday morning would be soon enough to change her body linen. Draw-sheets and napkins must of course be renewed as often as necessary, but this will not disturb the patient much, but even then the former must not be moved for twelve hours after delivery. In hæmorrhage, after the intra-uterine

injection has been given, and *before* the patient is moved, it is advisable to sponge the vulva, and also wash off all the blood stains on the buttocks, thighs, or knees, and bathe the genitals. I have given you minute directions how to change and wash your patient for the first few days after delivery. I need not repeat them, only let me emphasise that everything must be done with extra care, gentleness, and precaution against *chills*. It is advisable to give the lotion I mentioned to you as cleansing and cooling to rinse out the mouth or even gargle the throat with, and clean the teeth. If the patient be strong enough to stand it, the hair may be loosened and combed out on the fourth day. When you have finished have some light refreshment ready, as your patient may get faint—after her exertions a little hot well-seasoned beef tea with toast sippets, if there is coldness as well as faintness; or, if preferred, a cup of warm milk thickened with arrowroot. I do not advise the bed-clothes to be changed so soon as the second day; if you are careful about your draw-sheets and napkins it is not necessary, especially if you bear in mind the instructions I gave you as to the mode of preparing the bed for labour. Do not forget that the feet must be kept warm; if the patient complain of coldness have the foot warmer *in* the bed, not too near the feet. Do not have a *weight* of clothes over the patient; wearing her bed jacket, she does not require to be smothered over her chest with bed-clothes, nor anywhere else; one blanket and an eider-down coverlet would be sufficient; avoid impermeable bed quilts. The blanket you at first wrapped her up in may not be required for more than twenty-four hours; it may then oppress her.

Severe “after pains” sometimes follow after hæmorrhage, especially in multipara; so long as they have their usual characteristics they need occasion no anxiety, and are best alleviated by 30 minims of tincture of henbane in a little water when in pain.

There is no need to act upon the bowels under careful feeding and management for three or four days; I incline to saline aperients in these cases, but that is a matter for medical direction. What is our next anxiety? The reactionary fever that often follows severe post-partum hæmorrhage, accompanied in most instances by immense breast engorge-

ment, headache, restlessness and slight delirium; these symptoms are relieved by the milk flow, but great care and vigilance must be exercised in the management of the breast to avoid trouble in that quarter, and I must refer you to my chapters in Vol. I on breast management, when you will see the value of every detail I gave you. It is highly desirable that the patient should suckle her child, both for her own health and for that of her infant. But in this we are often overruled. When the cares of lactation are overcome, the patient may be said to enter on her path of recovery; there is no part of Obstetric Nursing that calls forth more skill, care, and vigilance on the part of the nurse than this great calamity of child-birth—post-partum hæmorrhage, which may almost be called the touchstone of her worth.

Speaking from no small experience in this matter (and no easy chair adviser writes you now), I do not hesitate to say that the two things that so often bar the path of progress are the reckless use of stimulants and narcotics; the less brandy and the less opium we have the better for our patients. The former injuriously affects the brain and aggravates the headache we get after blood-loss, the other the secretions, obstinate constipation being one of them. Pure air is our best stimulant, pure food our best restorer, and both tend to induce *natural* slumber, which should be encouraged in every way by repose, quietude, and a soft subdued light in the room during daylight.

Other things being favourable, the sheets may be changed and bed made on the fifth day, observing the directions I gave you for doing so the *first time* in ordinary labour. By this time, if the bowels have been moved we can make a change in diet—fish and chicken in change with broths and milk. And here let me remind you that in feeding our patients we must always have great regard to *position*. So long as they are compelled to keep *recumbent* it is wiser to keep to fluid nourishment, but when they assume a semi-recumbent position solids can be given in small quantities in change with fluids. When the patient is strong enough to sit up on the sofa for an hour or two in the day, she can take a solid dinner, including farinaceous puddings.

All the careful and prudent measures I have pointed out to you as necessary in ordinary convalescence become doubly so

after post-partum hæmorrhage. The diet should be generous, but delicate, and a little Bordeaux wine may form a part of it. The air of the bedroom and sitting room should be kept as pure as possible, and a temperature of 60 degs. Fahr. preserved day and night. I strongly commend the wearing of light woollens *next* the skin, all over the body; it avoids the necessity for overloading the outer clothing, which leads to oppression, and being often thrown off in consequence causes chills and "drawbacks." Season of the year and strength of patient permitting, change of air must be sought; it is usual to send patients to the coast, but in my judgment it is wiser to try, in the *first* instance, the soft, dry inland air of one of our spas—Cheltenham or Leamington, for instance—where we get the advantages of the chalybeates to aid recovery; and when strength is returning the seaside air will be better borne, and hence more beneficial. I should the more particularly recommend this plan for town-dwelling women, especially Londoners, who are, as a rule, more delicate in health than country ladies.

Before leaving the subject of puerperal hæmorrhage there is one point respecting it I must bring before your notice, as it may serve to impress upon your minds the *extreme* importance of all the measures we have just been discussing. It may have struck some of my nursing readers that in the face of the fact that under modern treatment a recurrence of the hæmorrhage was *not* to be feared, we yet insisted upon the necessity for a patient being kept *in absolute repose* in the recumbent position for so long after delivery. The *reasons* for this precaution are of great interest. To *rest* the heart, weakened like every other organ of the body by the blood loss it has sustained, is of first importance, and you know that syncope, or retardation of the heart's action, is a natural mode of arresting hæmorrhage; and sudden movements or undue muscular exertions may dangerously increase this weakness of the heart and lead to fainting,

There is also another and different reason for a continuance of repose in the recumbent position of great interest, which I will briefly touch upon, in order to emphasise the necessity for all the measures I brought before your notice with respect to the nursing duties required after puerperal hæmorrhage. What does a lessening of the heart's beat or muscular action

imply? A slackening of the blood current in all the circulating vessels, pulmonary and systemic. This retardation again tends to coagulation of the blood constituents; and when the blood flow of any wounded or exposed vessels is *suddenly* arrested, a clot is formed which temporarily *plugs* it, and were it not for these minute coagula, the ligature of the surgeons would be unavailing. Hence we may say the *only* permanent means of arresting hæmorrhage from any cause is due to the fibrine contained in the blood, and its physical property of coagulation; and were it not for this wonderful provision of Nature we should bleed to death from a simple cut on the finger, as sometimes does actually occur with patients subject to the hæmorrhagic diathesis.

I have brought this matter before you in a simple, homely way, and earnestly commend it to the thoughtful consideration of all women engaged in obstetric work or nursing. You see how important it is that the circulation should be kept as equable as possible, and the blood stream flow calmly as it were from the heart; hence the reason for perfect repose, *mental* and physical.

CHAPTER II.

PRÆ-PARTUM HÆMORRHAGE.

CAUSE OF—SIGNS OF—TREATMENT OF—HÆMOSTATICS—STIMULANTS—CARE OF PATIENT—GENERAL SUMMARY OF PUERPERAL HÆMORRHAGE—NURSING DUTIES IN.

PRÆ-PARTUM HÆMORRHAGE precedes delivery, and as it is a matter of great interest in midwifery nursing, we will briefly outline some of its leading phenomena.

The first point to bear in mind is that the blood of the fœtus is aerated outside its body through the medium of a complex vascular organ, that has been likened to a colossal capillary. This organ is placed on the uterine parietes, and on the exterior face of the fœtal sac. It is called the placenta. The media of communication with the placenta and proceeding from it are the umbilical vein that returns arterialized blood to the fœtus, and the two hypogastric arteries, which convey from the fœtal heart the blood to the placenta for re-aeration in the maternal system.

These three important vessels are contained in and protected by a gelatinous sheath of varying length. They are mostly spiral in form, and they constitute the umbilical cord, that floats in the liquor amnii and connects the fœtus with its placenta. Under normal conditions a ceaseless supply of arterial blood, upon which the fœtus lives and grows, is carried without interruption to the end of gestation. But there are occasions during the pregnancy when there occurs an escape of arterial blood from the uterus, which comes from the uterine and utero-placental arteries, and it is caused by an *accidental* detachment to a greater or less extent of the placenta.

We will now turn to the nursing duties such cases demand at all times ; these are most anxious, and an intelligent observation on the part of the nurse will greatly aid the prompt treatment of the complication.

We will assume that you are in attendance upon a lady daily expecting her confinement at term, when without any of the ordinary indications of labour in the way of "pains," the patient becomes conscious of a flow from the vagina. You request her to lie down. On examining, you see bright red blood, trickling or flowing from the vagina, and if you apply a napkin to the vulva to wipe off the blood, you will perceive that though you mop it up from time to time, the stream, whether much or little, flows on continuously, not intermittently, and that the blood is arterial. Now you know that under normal conditions a very frequent and favourable indication of labour is a mucous discharge from the vagina mixed with blood, and which in midwifery is called a "show," this attends commencing dilatation and lubricates the soft parts.

But in the case we are considering you will find the flow consists of pure arterial blood.

Your first duty will be to send *a written note* or message to the doctor describing the case and requesting his attendance. Quietly tell the lady that, as labour may be coming on, you thought it best to let the doctor know. Nothing more than this need be said. In the meantime you make prompt preparations for meeting the emergency; get the lady's night-clothes to the fire, and, when aired, assist her to rise; if in the daytime, remove her clothes and dress her as for labour. Then have the bed made and got ready for labour as in ordinary cases.

Have a fire lighted in the bedroom, and all the preparations made which are described in my former work (Chapter I., pp. 9 to 10). Wise at all times, these preparations are supremely necessary here.

If the flow continues or increases, the patient must be placed on the bed in the labour position, and kept there till the arrival of the doctor, and you must at frequent intervals examine to see what amount of hæmorrhage is taking place. To do this, remove the napkin you have applied to the vulva and watch the flow. If increasing to a dangerous extent, it is usual to apply napkins, wrung out of cold water, to the vulva or over the abdomen; but this is only a temporary expedient, not a remedy. In the meantime, labour pains may come on, a sign of happiest augury, as they lead to the

only real safety of the patient's delivery. Now if you examine the patient during a pain (and you must very closely watch these cases), you observe that during the access of a pain the flow is arrested, but when it is over the blood escapes to a greater extent than at first. Here we may say that the complication we are now considering is called "accidental hæmorrhage," to distinguish it from other forms of præ-partum hæmorrhage, and which are mostly "unavoidable."

The first thought that occurs to a thoughtful observer is "How can this hæmorrhage be arrested?" The consequences of a continuance of it are most dangerous. It is obvious that the measures we should take in a case of hæmorrhage from a burst varicose vein are not possible here, for neither compression, cold, nor ligature avail. A knowledge of these facts led obstetricians for generations past to adopt a simple, safe, and reliable expedient to meet and lessen to a degree of safety the uterine hæmorrhage, by puncturing the membranes and liberating the liquor amnii.

Now as this manipulation can be perfectly well done by a well-instructed and experienced nurse, and, as in some instances, country cases, for example, medical aid cannot be quickly procured, and even moments are precious, I will describe to you what, in my experience, is the best way to proceed.

Wash your hands in a solution of carbolic acid ($\frac{1}{40}$) also your perforator. I use a steel knitting pin of medium size; place it on the bed ready to your hand; rub some vaseline over it, and over the index finger of your *left* hand; pass up to the os, which you may find dilating and dilatable. On the access of a pain, take the pin in your right hand, and *very cautiously* guide it along the finger of your left hand to the os, and, when you feel the membranes tense, puncture them, and withdraw the stilet, but keep your finger at the os until another pain comes; then gently press upon the head, until you find a rush of water from the vagina, then withdraw your left hand.

Our next duty is to ascertain what good we have done by our proceeding. A pain comes on, we examine, and find the hæmorrhage ceases; we watch the pause, same result; and we know that, for a time at least, our patient is secure. And why? By causing the uterus to contract over the foetus, we

have converted it into a placental compress, for it is the uterus which is the seat of the lesion. Binding should be resorted to in these cases before delivery, applied in this wise, if prudent: let the patient rise from the bed and stand up for a few moments, whilst you quickly pass the binder over the abdomen and outside her skirts, and tie it in a loose knot behind, when the patient resumes her former position, and during the "pains" pull firmly and strongly, in a downwards and backwards direction, upon the tied ends of the binder, relaxing your efforts in the "pauses." Under favourable conditions and skilful medical aid the labour is completed by the natural powers, and the lives of mother and infant preserved, and this is a typical case of "accidental" hæmorrhage at term; premature labours or abortions not being within the scope of this work. There are two other forms of præ-partum hæmorrhage we will now touch upon.

We assume, as before, that you are in attendance upon a lady, daily expecting confinement, the normal pains of commencing labour set in, and with them hæmorrhage, arterial blood flowing from the vagina, but in this case *increasing* with the pains. You take precisely the same measures as in the former case pending the doctor's arrival; you examine the patient when you have placed her on the bed, and you cannot find the head or any other presentation, but feel a spongy substance, something like a coagulum, only firmer, that is the placenta presenting in front of the child. It is called placenta prævia, and it is an excessively dangerous complication. The blood escapes in greater quantity with each successive pain and diminishes in the intervals. Dr. Playfair, in his great work upon the "Science and Practice of Midwifery," says, "this has long been looked upon as a diagnostic mark by which we can distinguish between the so-called 'unavoidable' and 'accidental' hæmorrhage, in the latter the flow being arrested during the pains. This distinction is altogether fallacious. The tendency of uterine contraction in placenta prævia, as in all other forms of uterine hæmorrhage, is to constrict the vessels from which the blood escapes, and so lessen the flow. The apparently increased flow during the pains depends on the pains forcing out blood that has already escaped from the vessels. In one way, up to a

certain point, the pains certainly do favour hæmorrhage by detaching fresh portions of the placenta ; but the actual loss takes place chiefly during the intervals, and not during the continuance of contraction."

The management of these cases is in medical hands, and a nurse has simply to follow out instructions. Delivery is effected by manual separation of the placenta and version.

There is yet another form of præ-partum hæmorrhage, often unaccompanied by the ordinary indications of labour though the patient be at term, called concealed or intra-uterine hæmorrhage. This is more critical than the preceding, as there is no escape of blood per vaginam to give warning of the danger, hence the symptoms are subjective, and such as would fall under the observation of a nurse. The signs of the trouble are pallor, faintness, coldness, lividity of lips, restlessness, yawning and sighing ; the patient complains of a feeling of abdominal weight, distention about the uterus, and pains of a tearing, stretching character, pulse quick and compressible. These symptoms show themselves suddenly, on the patient rising in the morning for instance. The patient does not care for food, but will take cold milk or lemon water, as she feels thirsty. You summon the doctor, and state the facts. You undress the patient and place in labour position on the bed ; you examine, and get the first intimation of the danger by seeing a torrent of arterial blood literally rushing from the vagina. Pending the arrival of the doctor you puncture the membranes ; this may stem the tide, but it does not get back the awful loss of blood already sustained ; the subsequent shock of labour is too much for the feeble frame to withstand, and the patient often dies soon afterwards. The child dies before birth.

We will now turn our attention to the treatment of puerperal hæmorrhage, a subject of the deepest interest in Midwifery Nursing, from the extreme gravity of the complication, and the high nursing skill it demands.

In natural labour the muscular contractions of the uterus (the pains) expel the child, extrude the placenta, and finally constrict the uterine bloodvessels, from which the blood escapes, and so lessens the flow. In Vol. 1, Chapter III., p. 25 of my manual of "Obstetric Nursing," I have pointed out that the bloodvessels of the gravid uterus are very different

from the bloodvessels in any other organ of the body, and are designed to minimise the risk of post-partum hæmorrhage. I earnestly direct your attention to that passage.

It sometimes happens, even after favourable labours, that the post-partum contractions of the uterus are not maintained; the uterus becomes weak, its contractions lax, the blood escapes in large quantities from the uterus, and this condition is called inertia, leading to puerperal hæmorrhage. We will describe in detail the measures we take to excite the muscular contractions of the uterus, and, if possible, *to maintain* them, by manual pressure upon the uterus through the abdominal walls. In your hospital days you were doubtless taught to define and manipulate the uterus after delivery, and as a practical knowledge of the post-partum condition of the uterus is a matter of the highest importance in Obstetric Nursing we must give the matter our most thoughtful attention. The first point is to define the uterus before any attempt at pressure is made.

The writer has seen a nurse aimlessly traversing the abdomen with her hand, and more often than not making pressure in the wrong place! After delivery the uterus lies towards the right side of the abdomen, and low down, and can be felt as a hard, firm mass, about the size of the foetal head, and in young and thin patients it is very easy to make it out; but in the cases we have just been considering, where the muscular contraction of the uterus remains temporarily in abeyance—a condition that in midwifery is called inertia, the tactile definition of the uterus is often very difficult; the lax walls do not contract, its cavity fills with blood, and its outline is lost; it is large, soft, and doughy to the touch, and you observe that blood is flowing profusely from the vagina. Place the palm of your left hand, having first dipped it in cold water, over the mass making a *point d'appui* of your wrist, and, grasping it with your spread-out fingers, make firm, equable, intermitting, but *careful* and tender pressure; in a few minutes you will feel the uterus lessening and hardening under your hand, which you work with a sort of swaying motion that has been likened to kneading; contraction has been excited—now pause, do not worry a *contracted* uterus—remove your hand, re-dip it in cold water, and, after careful exploration of the abdomen, renew your touch, as

the uterus may relax, and pressure be again required; when you have once positioned your hand *never move it from the uterus* until contraction is again restored; it may be some time before it can be maintained, and the uterus must be carefully guarded and watched for some time after delivery. There is one point I must impress upon my young nursing readers, that all these manipulations of the uterus must be done calmly and gently, remember you are not working a ball, but a thing of life, sensitive to the last degree; hurried, ill-directed "force is no remedy," and would lead to serious if not fatal metritis from bruising of the uterine tissues. Another stimulus to uterine contraction is "cold," that is the douching of the vagina with napkins wrung out of cold water; sometimes they are applied to the abdomen. In earlier days of practice the writer has seen this "force" (cold) applied with merciless severity. The patient was placed on her back, her feet raised, her body naked to the waist, cold water poured on the abdomen from a jug by standing on the bed to do it, then wet napkins laid over the abdomen and round the hips, and the vulva douched, and in this exposed and miserable plight the poor patient was left for hours, and plied with brandy by the pint to restore her! By the time nurse was allowed to place and bind her patient her strength was well nigh spent, and the brandy just finished her.

So much for cold and pressure in cases of inertia, but there are cases in which these stimuli to the muscular contractions of the uterus fail in their effect, and we get a condition that in midwifery is called atony, or an entire loss of the contractile power of the uterus; the hæmorrhage continues, and, but for the resources of modern midwifery, would prove inevitably fatal. The treatment consists in the application of a powerful styptic to the bleeding surface, to produce instantaneous thrombosis or plugging of the mouths of the vessels with minute coagula. It is a magnificent remedy. The styptic employed is the liquor ferri perchloridi of the British Pharmacopœia, gently injected into the uterus through the vaginal pipe of a Higginson's syringe. In vol. 1, pp. 112, 113, of my manual of "Obstetric Nursing" I have given directions for the administration of intra-uterine injections, and refer you to them. The styptic must be

diluted for use with six times its bulk of water, viz., 4oz. of the solution to 24 of cold water, making about a pint and a half for injection, which should be mixed in a rather small but deep basin or a wide mouthed quart jug. Pass the solution twice through the syringe to see that it is in good working order, and ever remember to keep the end of the feeding tube *well under* the fluid; you then take that and the syringe to the accoucheur for his use.

The hot water intra-uterine injection is done in the same way. Many accoucheurs have a quarter of a pint of vinegar added to the water, and the solution must be raised to 120 degrees—as hot as you can bear your hand in; excellent results follow this application, and it rinses out all coagula from the uterus. The *Nursing Record* for Dec. 8, 1894, has the following paragraph: “Steam as a Hæmostatic.—The well-known fact that boiling water is the quickest and most reliable means by which bleeding can be stopped, has led to a new method of attaining this end, especially in cases of hæmorrhage from the uterus after labour. A fenestrated sound is passed into the cavity and is connected with an apparatus (what kind is not stated). The effect, it is said, is immediate, hæmorrhage ceasing at once, and, what is more surprising, the process appears to be absolutely painless to the patient. Experiments have been made to prove that one minute’s application of the steam causes the mucous membrane of the uterus to be covered with a thin pellicle of coagulated albumen, which, to some extent, would account for the beneficial result of the treatment in checking hæmorrhage.” A dangerous remedy.

This coagulation of the albumen of the blood by heat would be the *rationale* of the treatment in both forms, but the hot water washes out the uterus, which steam would not. I merely quote the passage as worthy of the attention of obstetric nurses; one thing we all know, cold depresses, warmth invigorates, and the marvellous effect of the hot water irrigation of the uterus is that it not only arrests the hæmorrhage, but it invigorates the patient. Intra-uterine injections are used for cases of post-partum hæmorrhage; they are not applicable in præ-partum hæmorrhage until after delivery, if required at all. We have discussed topical, we will now touch upon the medicinal, measures resorted to in

puerperal hæmorrhage. The most used and best known is ergot of rye in various forms, which possesses the peculiar property of promoting the contractions of the uterine muscle, and it is of far greater value after delivery than before. It can be given in powder, with equal parts of caster sugar; or in some hot tea, in doses of from 15 to 20 grains. Some doctors make a fresh infusion from the bruised corns as they want it, with a teacupful of boiling water; but this, as a rule, is distasteful to the patient from the nauseous taste of the drug and the quantity given at a time. The liq. extract of ergot is a convenient form, and the quantity small. There is one peculiarity about ergot of rye, whatever form we may use, that must occur to most practitioners of midwifery—its uncertainty of action, whether due to some idiosyncrasy on the part of the patient or the fault of the pharmacist I don't know. This want of reliability is said to be met by a modern preparation of the drug called ergotin for hypodermic injection, which is guaranteed to be of absolutely even and reliable quality. The hypodermic use of the drug has, in my judgment, an advantage, as it does away with its nauseousness as regards the patient, and its post-partum administration can be done without her knowledge, the seat of the injection being the gluteal region. From agents that act on the uterus we turn to those that act on the blood, called hæmostatics, foremost amongst these in modern midwifery is oil of turpentine, given in twenty or thirty drop doses, on lump sugar. I use caster or finely powdered white sugar, as the patient can take the dose in one gulp; it has a pungent acrid, unpleasant taste. Some accoucheurs advise the inhalation of the turpentine as well; steep a piece of cotton wool in it, and let the patient inhale the fumes from time to time. The oil of turpentine, which is a general hæmostatic, acts promptly and efficiently before and after labour, the dose is 10 to 30 minims. In serious cases of præ-partum hæmorrhage, such as placenta prævia, it may be given in doses of 30 drops each every fifteen minutes; also given before the advent of labour in women prone to hæmorrhage it may lessen if not arrest it. I should advise an obstetrix to keep a small bottle of turpentine in her bag, and if you have a few drops of oil of lemon

added to it, it will disguise the flavour and give a pleasant fragrance to it. In addition to turpentine, lemon juice should be freely given before, during, and after labour, either in aerated water or cold sweetened water, when there is hæmorrhage. In emergencies, 30 drop doses of the oil of turpentine dropped on to a large lump of sugar and eaten by the patient ensures rapid and sure action. The turpentine can thus be very quickly administered, and during the eating of the sugar the volatile turpentine is inhaled as well as swallowed. 20 drops may be given every fifteen minutes, but not for more than six doses, as by that time the system will be sufficiently saturated.

Stimulants.—The most used in puerperal hæmorrhage is brandy; it should be the very best pale cognac, given in measured quantities, and subject to medical direction; we use it as a drug. It is prudent to see that it is obtained before labour, as the more promptly it is administered the more good it will do, and the less we want of it. But an unwise use of alcohol often reproduces the hæmorrhage by putting tension on the circulation.

Sp. ammon., aromat., or sal volatile is a valuable diffusive stimulant, and tends to check vomiting that often accompanies puerperal hæmorrhage.

I have now concluded the subject of puerperal hæmorrhage.

CHAPTER III.

PHLEGMASIA DOLENS.

DESCRIPTION OF—CAUSES OF—TREATMENT OF—LEG RESTS—
BANDAGING—REPOSE—DIET—STIMULANTS—MEDICATION
—LOCOMOTION—CONVALESCENCE.

“PHLEGMASIA DOLENS,” the familiar “white leg” of child-bed, is, indeed, one of the most dolorous of our patients’ troubles, for it cripples them for many months, and often leads to permanent lameness. The older obstetricians called it “milk leg,” and milk suppression being one of the symptoms of phlegmasia, they regarded it as a kind of transference, and inferred that the milk had fled to the leg and settled there, and the only way to get it back (?) to the breasts was to keep the infant to them, *nolens volens* as far as the poor mother was concerned. This strange delusion found wide acceptance in lay and medical circles.

The appearances that mark “white leg” are very singular, and every obstetric nurse should know and be able to recognise them. The disease attacks one of the lower limbs, generally the left leg, which becomes enormously enlarged, white, tense, shiny, and *elastic to the touch*. Bear this point in mind; it is diagnostic of the disease. On making careful pressure in the track of the blood-vessels you can feel the enlarged, hard, cord-like veins, and sometimes perceive lines of red streaks that mark the course of the inflamed lymphatics. The leg is sometimes painfully hot (an unfavourable sign), the lochia are suppressed, the milk secretion scanty or altogether absent. The premonitory symptoms vary, sometimes mild, such as slight rigor, headache, rise of pulse, nausea (a constant symptom); at other times great restlessness, thirst, furred tongue, quick pulse, neuralgic pains round the loins and down the thighs.

A peculiar feature of the disease is the varying seat of the attack. Sometimes the inguinal region first becomes painful

and humid, the swelling rapidly extending *downwards* along the limb; again, the ham, the calf, the ankle of the foot may be first attacked, the swelling extending *upwards* towards the thigh. The acute stage of the attack lasts about ten or fifteen days, when the constitutional disturbance gradually subsides, the pulse falls, the tongue clears, the lochial discharge returns, at first very offensive, but by degrees resuming its natural character; the swelling of the limb diminishes, it is no longer elastic, but pits upon pressure; the tenderness of the veins and lymphatics disappears. The proper size of the leg may be restored, but *not* its power; the patient has little control over it, walks with difficulty, and may be lame for months.

Let us briefly touch upon the cause of this sad malady.

The disease attacks the venous and lymphatic circulations, and its origin must be found in the septic and altered blood conditions peculiar to the parturient state, one of its manifestations being an excess of fibrine in the blood, leading to the formation of coagula in the veins; and when the obstruction is in the *systemic*, as opposed to the pulmonary circulation, it is called *peripheral* venous thrombosis. In the former case there is the peril of embolism. An embolus may be defined as a detached "clot," borne by the current of the circulation into the heart and onwards into the pulmonary circuit, and thus blocking some of the great bloodvessels of the heart or lungs, to the infinite danger, if not sudden death, of the patient. Hence we can see that the limitation of the disease to its first locality is a point of supreme importance, and all our nursing efforts must be directed to favour it.

When a coagulum forms in a vein it gradually undergoes certain changes, the blood having the power of separating from itself a fibro-albuminous fluid, which escapes into the cellular tissues surrounding the veins and rich in lymphatics, which accompany the veins in all directions. This effusion lessens the size of the coagulum and frees the circulation; the fibrinous clot adheres to the lining of the vein, and in this way a complete cylinder of fibrine may be formed in the interior of the vein. The lymphatics are also involved; coagula form in the lymphatic fibrine, and obstruct their circulation; an effusion of lymph takes place into the

cellular tissues and skin, giving the white aspect and *elastic* character diagnostic of phlegmasia. The *first* effect of the poison entering the circulation is obstruction to the lymph and blood; the second, when the quantity is greater, is inflammation of the lymphatics; if the amount of morbid matter be still further increased, the coagula break up and get into the circulation. Diffuse inflammation may result or pysemic fever. From this necessarily brief sketch you will see that there are two dangers to be feared—embolism in the pulmonary veins, septicæmia in the general circulation,—and hence you can understand how interesting, though anxious and critical, a “white leg” is, and that the case is not covered by the name. There is no disease of child-birth that leaves more destruction behind it: lameness, the result of inflammation of the sheath of the nerves; varicose veins from the formation of permanent clots, being two of the most frequent; from the former two evils may more remotely be developed—hæmorrhage from rupture of a vein, mostly in the leg; or ulcer from abrasion of the coats of the vein, which as most nurses know, leads to ulceration of the most intractable character.

You may ask, why does not every lying-in woman have a “white leg” if the liability to it is so extreme? For the reason that, as a powder magazine cannot explode without a spark, a parturient woman cannot have phlegmasia without a *poison*; and you can recognise the importance of those antiseptic measures I brought before your notice in former papers. It has been thought that phlegmasia follows more often after puerperal hæmorrhage than anything else. Speaking merely from my own experience, I have found it occur most frequently and *severely* after difficult labours requiring instrumental aid, and am of opinion that lesions to the utero-genital tract, by favouring the admission of poison into the blood, are the main factors in the disease.

I have dwelt somewhat fully upon this singular and interesting complication of convalescence from parturition, and to some of my readers it may appear “quite ridiculous” for nurses to have *anything* explained to them. To which I reply that nothing can be more “ridiculous,” more *mischievous*, more degrading to the nurse than ignorance.

We will now enter upon the nursing duties required in phlegmasia. Our guiding principle must be based upon the opinion most generally entertained by living obstetricians, that the disease may be regarded as a *conservative* process as far as the safety of the patient goes, only becoming *destructive* under certain extreme pathological conditions; and hence we can plainly see that the affected limb should be kept in *absolute repose*, and in such a position as shall bring the utmost comfort to the patient.

We will take the limb first, and we find two conditions that claim our care: immense enlargement, leading to a weary sense of *weight*, and numbness from obstruction to the venous circulation. We must rest the limb. How? We must raise it. How much? In hospitals slings may be brought into requisition to help us in these matters; but in home nursing it is usual to prop up the limb by placing the foot upon foot-stools, small boxes, big books, piles of pillows, and so on; and, acting upon the cuckoo cry, that "position is everything," raise up the leg as *high as possible*, to the often discomfort of the sufferer, not only from the crude methods adopted to attain that end, but from their crass unreasonableness. How shall we afford the most perfect rest to the limb with the greatest amount of comfort to the patient? Remember, we have not inflammation and extreme tenderness to deal with, and that the pain and weight of the limb is comforted by judicious support.

The following plan, pursued in a case in my practice some few years since, I have found as good as anything that has come under my notice. We had a plank of wood made the length of the limb, eight inches wide (six might do in some cases), rounded at one end to slip under the thigh; another and shorter plank, the same width, about eight inches high, and fastened on to the other end, on which to rest the foot. As a routine rule, the *heel* should be on a level with the *hip*. This plank formed an inclined plane, sloping gently *upwards*, upon which, after we had carefully padded it, as it were, from end to end with Southall's absorbent sheeting, we placed the leg, which was greatly enlarged. So much for mechanical support. The next point of equal importance was the application of heat and moisture, which we carried out in this wise. We had two

indiarubber hot-water bags, *long* shaped, filled with hot water, and placed along the plank, and *under* the absorbent sheeting. This gave us bottom warmth. We then placed flannel stupes wrung out of hot water by our wringers as dry as possible, and put them on and round the limb. Over all these we had a sheet of oil silk hung *loosely* over the leg-rest to protect the bed-clothes from getting wet and keep some of the heat in. In addition, we had a hot-water tin, filled with boiling water, put *under* the plank to keep the bed warm. By these contrivances we put the limb into a sort of vapour bath, and kept our stupes hot for a length of time, and carried out three cardinal points of treatment—*repose*, warmth, and moisture—with excellent results in that case, at any rate.

In addition to these measures, when the limb is very painful, opiates topically applied are sometimes required. This is a matter of medical direction; in my experience I have found a liniment of equal parts of belladonna liniment and glycerine applied to the leg in this wise as good as anything. Dip a piece of soft flannel or a swab of cotton wool into the liniment, which can be slightly warmed by pouring into a *hot* saucer, and then rub the limb *lightly* all over with it. Sometimes belladonna ointment is smeared over it, but this is a matter for medical direction; nor need you repeat the belladonna every time you renew the stupes, unless ordered to do so. The advantage of having glycerine mixed with the belladonna liniment is, that when the latter is used plain it evaporates so quickly it does not seem to soak into the skin.

When you use anodynes of any kind on stupes, poultices, &c., you should always know how much you apply at any one time. I have seen a nurse take up a bottle of laudanum and sprinkle away without any regard to *quantity*, and when the process comes to be repeated frequently, mischief may result from such negligence. For this reason I advise you to pour out a measured quantity into a saucer and paint or rub over the affected *part*, and not pour it indiscriminately all over the stupe. Again, the doctor orders an infusion of poppy heads—well, there is a great difference in the size of poppy heads, they may be almost as small as a thimble or as large as an egg. Is the same quantity of water to be used in both instances? The fact is, this matter should be

done to *time*, scale, and *measure*, if you want to get reliable results out of opiate infusions. So many drachms or ounces of poppy heads, so many ounces or pints of water, and so long to boil before being poured off. Poppy heads, like tea, strengthen as they stew, and yet in home nursing this fact is superbly ignored, and nurse goes on "sprinkling" just the same quantity about as at first when the decoction was not half the strength. Opiates should never be recklessly used, and it is this thoughtful attention to *detail* that marks the distinction between an ignorant and an accomplished nurse.

Under the influence of warmth, rest, and moisture, the enlargement of the limb gradually diminishes, and in ten or fifteen days the swelling generally subsides. The gradual lessening of size of the limb is marked by a diagnostic sign of much interest; the skin of the leg, which during the *acmé* of the attack was tense, shining, brawny, and elastic, begins to yield to the touch, and *pits upon pressure*, which assures us that absorption has set in—the first step on the path of recovery. The sense of weight in the limb declines, but a feeling of weakness and numbness remains. In order to give support to the limb, and to aid the absorption of fluid, we must bandage it, and there is nothing better than a flannel roller, applied from the great toe, along the whole length of the leg. Every obstetric nurse should understand leg bandaging; it is most useful to her. Each roller should be six yards long, of two and a half inch width. In home nursing we have to make the rollers ourselves, and we must scheme a little; patients do not care to buy *twelve* yards of flannel. Get two yards and a half of new Welsh flannel (white), not too coarse or common, say twenty-seven inches wide; this will make us nine strips of three inches wide, giving us a total of about twenty-seven yards, enough and to spare for two rollers; join the strips firmly together, *back-stitch*, roll them up so that the *smooth* side of the seams go next the skin, and there will be very little discomfort from the joins. The bandage can be put on wet, dipped into *boiling* water, and let it *drip* till it cools sufficiently for use; it seems to fit *closer* to the leg than when put on dry. A continuance of the leg rest is a comfort to the patient. Whilst in repose

the leg will not require bandaging more than once every other day if properly and fairly done.

There is yet another point—friction. Should the limb be rubbed? Certainly not during the attack, at any rate; and my nursing readers can plainly see, from what I have so recently brought before their notice, that two evils might accrue from it—"clot" detachment from the veins, or inflammation from injury to the lymphatics. I earnestly impress upon the minds of all women engaged in midwifery work to resist all pressure brought to bear upon them by patients in all stations of life to "rub." Among women of the poorer classes "phlegmasia" is generally regarded as "something similar to rheumatics," and they have a rooted idea that rubbing with "oils" (whatever they may be) is the right thing to do.

When the weight and misery of the enlargement is relieved by the gradual diminution in size of the limb, there still remains a "deadness" and loss of power ever very hard to bear, especially in the weakened delicate state of the patient. I have found a little *gentle* manipulation of this kind afford relief. Raising and resting the foot upon a stool, anoint the leg with some simple emollient, such as vaseline or sweet oil, and taking it between the *palms* of your two hands, exert a little gentle, *equable* pressure along the whole length of the limb in a *downward* direction, always beginning at the thigh and ending at the foot; not *backwards* and *forwards*, but downwards and forwards. Do this several times in succession before applying the flannel roller. These measures seem to restore surface circulation, and are some relief to the "numbness" of the limb that is so trying to the patient, to whom I think it is time we turned our attention.

The constitutional effects of the disease vary, which makes it difficult to give routine directions. Some women feel far more ill than others, and, as a rule, the milder the *general* symptoms, the better the recovery of the patient, though the *limb* may be immensely enlarged; but ever bear in mind that careless nursing may at any time put back the convalescence, or render some of the evil results of phlegmasia permanent.

The patient must lie in bed some two or three weeks

longer than is usual after delivery, and as it is *most* imprudent to get her out of her bed *too soon*, you must make the bed and change the linen in the way I described to you in Vol. 1, Chapter V., p. 51, to which I must refer you for all bedside details, as they hold good in normal cases, and are still more necessary to be observed in critical ones. As it is generally the left leg that suffers, and the patient lies on the *right* side of the bed, if you carry out all the instructions I have given you in Vol. 1, Part 1, Chapter V., of my Manual of Obstetric Nursing, for managing the bed-clothes when using or applying the bed-bath or slipper, you avoid all chance of chilling the affected limb whilst performing your bedside duties.

There is a point of dress that I have found of practical importance in these cases—and I may say in our portion of nursing all through that the lady's nightdress should be *open* from top to bottom, and fasten with buttons, French fashion. You can see how important this arrangement is in "phlegmasia," when you have to keep the affected limb in *perfect repose*—a cardinal point in the nursing of it. It is awkward to draw the nightdress over the hips, and not good management to pull it over the head, and hence any Obstetric Nurse can see the advantage of having the nightdress to open all the way down, when we have to change it. A nurse I knew (a sensible, practical woman), liked her ladies to wear *long* chemises and *short* night-jackets instead of a nightdress, which was a very convenient attire in cases where there were breast troubles to deal with; but on the whole I prefer the long, open nightdress made a good width to anything else.

I have brought both plans before my nursing readers, and they can select either—subject, of course, to the wishes of the lady. The *flannel* bed jacket, or nightingale, should in all cases well cover the hips. I also advise removing the waterproof sheeting from under the bed-clothes—there is not much discharge in these cases—and substituting the absorbent sheeting for it, which can be frequently changed. The room must be perfectly ventilated by driving a current of air through it once in the day, and keep the window *open at the top all day* (if the temperature of outside air is not less than 60° Fahr.), which lets out the "used-up" air of the

bedroom. If in warm weather it would be desirable to have the window open at the *bottom* as well to let the fresh air in ; but this is often a difficult matter, for the structural arrangements, or rather want of them, in most bedrooms would lead the current of incoming air to blow on the patient, or place her in a " draught " when the bedroom door was opened.

I once saw this difficulty met in a sensible, practical way at a country house I was at, and as ventilation is a most important point of nursing, a little description may be neither uninteresting nor unprofitable to my young nursing readers.

A board, the width of the window and ten inches wide (you can make it any width you like), fastened with three brass hinges to the inner window sill, so you could have it up or down at will ; the ends of the board were rounded off, and two long brass hooks fixed at each end, which fitted into two brass loops secured into the sides of the window-frame. The next morning when we opened the window at the bottom we fastened up the wind-board by the hooks, the window being opened only a little lower than the width of the board ; the breeze came in a " welcome guest," and instead of blowing *down* on us, the air was deflected *upwards* and spread about the room : and we had no fear of draughts before our eyes, or behind our necks, which is worse, and a delicious freshness pervaded the atmosphere of the room. I never saw this contrivance before. Those of my readers who may have done so must pardon me for bringing it before those who have not ; it was a little plan of ventilation that I greatly appreciated and have not forgotten.

Having gone over the usual topical measures resorted to in " white leg," we must turn our attention to that judicious feeding of our patient that tends so greatly to aid her recovery, at all times a tedious process. We have two points to bear in mind—to sustain her strength, and to avoid the evils and troubles of constipation. If my readers will refer to Vol. I, Chapter V., p. 69, on the subject, in which I briefly outlined the anatomy of the colon, they can very plainly understand how a loaded condition of the large intestine, notably that portion of it called the sigmoid flexure, would cause pressure upon the internal iliac veins, and in this manner tend to *obstruct* the venous circulation in the affected limb (which is,

as you know, most often the left), and which of all things we are anxious to keep free. The choice of aperients rests in medical hands. I have found preparations of cascara very useful, they are simple, mild in action, and efficacious, and can be repeated without bad effects—a consideration when we have to give aperients for some time. Tonics are always given to improve the depraved blood condition that is the cause of the disease; cinchona is good, but I have seen better results from the perchloride of iron than anything else. There is one form of medication we all know to be fallacious—alkalies and other drugs, given with a view to aid the absorption of the coagula. It is on a par with the “rubbing” delusion we so often have to combat.

Now as to diet, it is plain to see that sustaining *fluid* nourishment is the best; in the early part of the disease *strong broths* are our sheet anchor, and I must now refer to Vol. 1, Chapter V., p. 71, on dietary, in which I touch upon this question. Milk, *pre-digested* and thickened with fine oatmeal, so that it can be taken from a feeder or feeding tube; three pints in the twenty-four hours is none too much. Broths are better, in my judgment, given at the *midday meal* than any other time, either thickened with arrowroot, or have thin toasted bread in them. A pint of *good* broth, whether made of beef or mutton, contains much nutriment if made well and from fresh meat. Bear in mind what I told you about the meat in *fine division* it ought to contain and see your patient has it. As the disease wanes and appetite returns *good* home-made soups are most valuable. A plate of mock turtle for dinner, to which you can add a wineglass of the *best* sherry, is a nice change. A slice of bread, lightly buttered on *both* sides, cut into dice, and browned in the oven, is an addition to this soup; also the *hard-boiled* yolk of eggs rolled into little balls; but I deprecate *force-meat* balls—there is no nourishment in them, and they do not digest readily, and the toasted bread, done as I have just said, gives a sufficient savour to the soup, which is a change from broths and clear soup. At 5 p.m. a cup of tea (all black) with milk, and bread and butter or plain seed cake; for supper the regulation milk gruel or porridge, with milk if preferred, must not be omitted; for breakfast, cocoa (made from the nibs), one-third milk, with a lightly-cooked egg or some white fish.

If the patient prefers tea, some brown bread and choice bacon toasted is a good change. Do not give too many eggs; they constipate some patients.

There is another dietetic point I wish most urgently to impress upon your minds—that *all broths or soups* should be freshly made. Is there any portion of nursing work in which lay aid is so useful and ought to be so readily given? I do not mean in mere bedside *technical nursing*—of which I for one have the deepest distrust as regards *amateur* efforts—but in the superintendence of the preparation of the *food* of the patient. It is often so difficult—nay, impossible—for the nurse to control this matter, and yet what point of nursing is more important to aid recovery than not only feeding, but food—its selection as well as its preparation? More goes to it to aid recovery than all the drugs in the pharmacopœia. I bring this little matter before the minds of my dear countrywomen in all stations of life to emphasise the fact that there are nursing duties outside the sick room as well as in it, and in child-bed nursing, at any rate, one woman should help and comfort another. There may not be so much glorification about it as nursing sick soldiers, in red capes and Norman caps, but, to my mind, the mothers of our warriors to be are equally worthy of our regard, and every woman in the house should be a willing helper in the task.

There is yet another nursing point about “phlegmasia” that does not occur in normal convalescence. It is necessary for the patient to remain in bed for some weeks in order that the affected limb may be kept in that state of *absolute* repose that is the chief point to aim at to effect good recovery. How can we best relieve the tedium of this enforced rest? Surely by making our patient as comfortable in bed as we possibly can. When the lady is getting better, she can assume the semi-recumbent position and yet rest the affected limb, and I know of no more comfortable arrangement than a chair bed-rest. By this I do not mean an ordinary bed-rest with a seat put to it, but an easy chair *sans* legs. A patient of mine was lamed with white leg. She had a favourite cane easy chair in her bedroom. “How nice it would be if I could have that in bed!” she said. “Have it cut down,” said I. And cut down

it was. And this is what we did with it. We moved the bolsters and pillows out of the way, and put our chair that had been so disgracefully treated close up to the head of the bed and steadied it there; brought our leg-rest close up to the seat, lifted up the lady on to her chair, and made her cosy with cushions and pillows to suit her own comfort.

After the chair comes the question of a convenient bed-table. I have never yet seen anything better than the one invented fifty years ago by an eminent mechanic, which really is a *table*, nice for meals, an easel for reading, and plenty of room for working or writing "traps."

By the way, the simplest and *safest* inkstand for *bed* use is the homely reversible one, for if it does get upset (a way inkstands have), there is no fear of "spills," and consequent spoiling of quilts and coverlets to be dreaded.

If the lady is laid up in the winter, we shall require a light for her table in the early afternoon. I do not think you will find anything much safer than the pretty shaded candle lamps that are made now. We have hardly elbow room enough for oil lamps, and the heat from them is oppressive.

In these tedious cases, visitors, that under ordinary circumstances are to be regarded with distrust, may be hailed as allies to the nurse, always provided they are of a *cheerful* frame of mind. "*Dolens*" is dismal enough in itself, without any added depression.

Reading to the patient, *always* allowing her to select the book, &c., beguiles many a weary hour in the day.

To my mind nothing better serves to take an invalid out of herself than the pen, within due limits of course, and assuming that she cares for writing. It should be done in the *early* part of the day, before dinner. I deprecate it after that meal. A patient may go to sleep over her book, whether she reads it herself or has it read to her; but she is not likely to write and sleep; and whatever interferes with natural slumber is most distinctly bad.

In order to emphasise the value of the arrangement I have just described to you, I will bring the case before my younger nursing readers *ab initio*.

A lady is confined on the first of any month—say of

January. Symptoms of phlegmasia show themselves between the seventh and ninth days after delivery. The disease reaches its *acmé* ten or twelve days afterwards, on the nineteenth or twenty-first; that makes at least three weeks in bed. It will be ten or fifteen days before the disease begins to wane and the swelling of the limb subsides; this brings us to the first or second week in February. The patient as a matter of *prudent* nursing should remain in bed for two or three weeks—nearly *two* months from the day of her confinement; by this you can see that it is a matter of first necessity to alleviate the tedium of this protracted convalescence, and diet plays a leading part in promoting it. The use of fresh vegetables and ripe fruit must not be overlooked, especially when *solid* meat can be taken in change with soups for the mid-day dinner, and in my judgment beef and mutton are more to be selected than fish, poultry, or game in these cases: we want to get all the *strength* we can out of the food. As pie or pudding crusts are better avoided, you will find few things nicer or more digestible than boiled rice to serve with stewed fruit or preserves; and as a great deal goes to the proper cooking of this useful farina, we will enter into the subject a little, and at once dismiss from our minds the familiar *conglomerate* of spheroid form so dear to our everyday cook, and prepare it curry fashion, as our Indian friends like it. The first point is to have the very *best* grain; we require so little that price should not be allowed to overrule quality. The rice must be boiled *loose* and in abundance of water—say three pints of water, which you bring up to a rapid boil; put in a pinch of salt, and drop in two tablespoonfuls of rice. As soon as the water comes to a boil again, begin to stir the rice about, *first* with a spoon; when it begins to swell you will require a fork, silver is the best. Let the rice be boiled fully *twenty minutes*, and quickly from first to last; when done strain it through a *colander*, *not* a sieve—you want to get all the *water* you can from it as *quickly* as possible. Place the colander before the fire, stir the rice with the fork, separating the grains as it were. When nearly dry have a small dish made warm, and over it a clean doyley; turn the rice on to it, and again spread out the grains with your fork. The doyley will absorb the loose moisture from the rice, which

should be beautifully white, soft, and loose. Rice cooked in this simple way goes with almost anything, or it can be eaten with sugar and cream, without fruit, &c.

Stimulants are serviceable in these long convalescences, subject, of course, to medical direction, and at all times in moderation. A glass of sherry or Madeira at dinner. The latter is not easy to obtain now, and, in my opinion, it has been too long overlooked for our sick as about the best wine to take. I have seen good results flow from the Rhenish wines, notably hock. As I regard wine from a medicinal point of view, I do not think it should be given without thought any more than drugs are. A wise use of stimulants avoids the necessity for too much food, and in the case before us judicious stimulation is better than cramming. When exercise is out of the question, where is the wisdom of overtasking the digestion?

"It is a long lane that has no turning," and we must now be thinking about getting our patient up. Assuming that the affected limb is returning to its normal *external* condition, the lady anxiously asking doctor and nurse, When can I get up? we must do our best to carry out her wish. This first getting up is an important part of nursing duty in "phlegmasia," and we must enter into the matter fully. In an ordinary case of "broken leg," where there are all the outward and visible signs of the injury, there is but little outside pressure brought to bear upon a nurse in this matter of "getting up;" but in "white leg" at this stage of convalescence the lesion is neither seen nor understood, and our prudent precautions are apt to be regarded as unnecessary "fuss," even by the sufferer herself, and many nurses even do not fully realise their importance.

If my young nursing readers will refer to their text books and anatomical plates, and trace the tortuous course of the veins, and the position of the lymphatic vessels, to say nothing of nerves of the (left) lower extremity, they will be able to form some idea of the vastness and destructive tendency of the lesion we are now considering. There is no cure for the malady, but precautions may lessen its evil results, and care help on recovery; for the want of them it is just as though, after much patience and skill we had unravelled a tangled skein of silk, some heedless, reckless

hand lost us the clue, and all our trouble had to come over again.

The time to select for getting up is, as usual, after the routine morning bedside duties, including the application of the flannel roller to the limb. We shall have no dressing ; all the clothes we require will be woollen stockings, a knitted or eider-down petticoat, and one or two under-skirts, according to the season of the year. The night-dress must be *kept on*, and in lieu of the bed-jacket we shall require a long, loose cashmere or flannel wrapper, and all these articles of attire must be put before the fire to air an hour before they are wanted. The room must be cleared and tidied, the fire made and fuel brought up. Near the fire-place we put an easy chair, with cushions and large woollen shawl to put across the lady's knees, also the foot-rest we had at first. Close to the bedside we bring a bedroom chair, with a *rail* in preference to a saddle back, and having a cross rail between the two back legs of it ; and a strong walking-stick, with a *crutch* handle preferably to any other form.

You must now put on the patient's clothes. First the stockings and slippers. She must then be assisted into a *sitting position* on the *right* side of the bed, and the *left* leg gently lifted on to the *lower* rail of the chair. You then slip off the night-jacket and slip on the under-skirts and the wrapper without *altering her position*. The next thing is to get her into an *upright position*, and to do this you will require assistance. In many cases the lady's husband (and we all know what capital nurses some of them are) lends a helping hand ; and, as *all* nurses do not run to five feet ten inches, and height is useful to us here, we find him a valuable ally. Now, this standing up for the *first* time is an important point, as we must avoid *all downward* pressure upon the affected limb, and we do it in this wise. The lady's *left* foot is where you placed it on the chair-rail ; her *left* hand grasps the top rail at the back ; her right foot rests on the floor, her right hand on the trusty stick ; her husband places his right forearm *under* her left arm. Thus supported, the patient rises up. You adjust the clothes as they fall into their place. She pauses for a few seconds to get well into the upright position. You can understand by these arrangements (that are done in half the time it takes me to describe

them) we are putting all the weight of the body on to the *right* leg and the walking-stick in the *right* hand. You stand on her *right* side, ready to render any aid that may be required.

We are now ready for the eventful "start." It is done in this wise: standing upright, resting her right hand on her walking-stick, the patient pushes the chair before her, on the lower rail of which her *left* foot rests, with her *left* hand on the top rail, just at a pace to suit herself, and receiving a little, but only a *little*, support under her left arm; in this way she makes fair progress towards her easy chair, the end of our "voyage," or, if so disposed, may prolong her "tour" round her room. My nursing readers may ask *why* not have the patient carried from bed to chair without all this "fuss?" Because that plan would not answer the end we have in view, which is to *test* the affected limb by an attempt at *locomotion*—we will not call it *walking*—and we shall draw some important deductions from the humble "progress" I have just described to you. When the lady is seated in her chair, place the leg-rest on the front of the chair, and the left leg on it, as you did when in the bed; a footstool will be sufficient for the right; place the woollen shawl across her knees and pack the cushions comfortably. Bring the bed table up to the easy chair, and fix it as you did over the bed; it is just as useful as ever, as the lady can have the table in *front* of her, which is so much more convenient than at her side.

The patient may feel somewhat fatigued by these exertions, and you must have some refreshment ready for her. When the lady feels tired, even though early in the afternoon, she must at once return to her bed, repeating the morning performances, *unless* she is too weak to do so. In that case the easy chair must be wheeled up to the bedside, her feet being held up the while, or at any rate the affected limb must *not* be allowed to hang down. Undress her in the easy chair; with the aid of her stick she can rise up on to her right leg, and placing her *left* foot on the chair rail, she can be assisted into bed. When the patient is well enough to get up the bed chair can be dispensed with altogether, and of course we only used it during the day, so long as she was obliged to remain in bed.

We have now entered upon the path of convalescence from "white leg," but there are three points of great interest to watch for, and no one more than an intelligent nurse has better opportunities for observing the symptoms that mark them; and I need scarcely remind you to keep your *thoughts* on these and other occasions (as far as your patient is concerned) to *yourself*. First, be on the look-out for *lameness*. You may observe the patient cannot raise the foot of the affected limb, and drags the leg after as she walks; this may be due to local nerve injury, and is often accompanied by neuralgic pains in the hip or the inner part of the thigh, or the calf—"shifting pains;" many pregnant women are liable to these pains. And when they occur in the breast, or the side, they are called "tick." In this case the lesion disables temporarily the leg, and we must have other aids to locomotion than those we have described, and a crutch must be obtained. This sounds sadly, but it is only common sense, and for my part I recommend a crutch in these cases as one of our best aids to recovery, lameness or no lameness, for the pressure of the body upon the leg should be eased by this simple surgical contrivance. What kind of crutch? Speaking from personal as well as professional experience, I should recommend a "bow" crutch, and, to get real comfort out of it, it should be made to *fit* as much as a shoe; hence the lady must be measured for it. The two points are the *length* of the crutch and the *position* of the handle upon which her hand rests, and which must be adapted to the length of the arm; the top of the crutch should be put *under the arm*, and be well stuffed to avoid chafing. It must be long enough to raise the foot a few inches from the ground. Being thus provided with a third leg (?), the patient has to learn how to use this novel *addendum*. Shall we give her a crutch lesson on paper? Remember that a crutch is only a passive support intended to take the weight of the body off an injured leg or foot, and really an idler, and has to be made to work. Standing upright, the crutch is put under the patient's left arm, and must be placed *in advance* of the left foot; leaning on the stick in the right hand, she makes a move forward with her right leg, and with a sort of swinging motion of her left leg supported by the crutch, which is soon acquired if you know how to

begin, she again brings it in advance of the left foot, and so on.

As soon as the patient can get about she should leave her bedroom. In country houses she will most likely have a morning room on the same floor; in town houses she will have to go downstairs, and I need scarcely tell you must be taken up and down in a carrying chair. Next comes leaving the house, and again we must be guided by circumstances. If in a country mansion, there is nothing better to begin with than an invalid chair to be wheeled about in the park or grounds, always bearing in mind season of the year and state of weather; if fine and warm, hours can be spent in the open air, taking a short crutch walk at intervals. After this more extended excursions in a low-running pony-carriage can be made. For town-dwelling ladies, it is on the whole better to get them away for change of air almost direct, and get the above-mentioned appliances at seaside or inland watering places. I have now brought under your notice lameness after "white leg," from nerve injury. We will now touch upon injury to the veins. Some patients complain of smarting and tingling sensations in the limb, the familiar "pins and needles," which shows us that the venous circulation is still obstructed. Occasionally you will find a varicose condition of some of the veins, and tenderness on pressure. There is no remedy for this trouble but bandaging, and resting the limb; sometimes elastic stockings are ordered when the veins in the leg are enlarged. I rather deprecate them myself, and consider the remedy is very often worse than the disease: they irritate some patients unbearably; and, as a matter of practical experience, I know that numbers of them discontinue their use for that reason. I feel more inclined to rely upon well-applied bandages than anything else. You can adapt them exactly to the wants of the patients, tightening or loosening at will; of course bandaging is more trouble, and for those patients who prefer the elastic support there is no need to take the trouble of former appliance, so I place both plans before you. There is yet the effects of the disease upon the lymphatic circulation to be considered, in some respects more serious than the two forms, as it occasionally leads to fear of another attack. The patient complains of deep-seated

pain, there is heat in the limb, and sometimes red streaks mark the course of the lymphatic vessels. Under these symptoms all efforts at locomotion must be abandoned, and absolute rest enjoyed until they subside, more particularly if there be any local hardness or swelling about the limb.

Under favourable conditions all the ill effects of "phlegmasia" are overcome; but recovery is often a long and tedious process, and it is well for nurses and patients to equally bear this in mind. Our chief aim is to maintain our patients' strength, and wisely *husband* their vital powers, in order that they may overcome the adverse forces arrayed against them, for impatience, ignorance, or neglect may lead to life-long and irreparable mischief. From the facts I have brought before my nursing readers they can see how interesting and important a part of Obstetric Nursing a case of "white leg" is, and as such I commend it to their thoughtful consideration.

CHAPTER IV.

PUERPERAL CONVULSIONS.

CAUSE OF—DESCRIPTION OF—SIGNS OF—SIMILITUDES OF—
GRAVITY OF TREATMENT OF—FATALITY OF.

PUERPERAL CONVULSIONS.—This rare and serious complication of child-bearing is dependent upon and co-incident with pregnancy, but reaches its most dangerous developments at or after labour. The malady cannot be prevented, nor always foreseen; but an outline knowledge of some of the assigned causes of the disease, and a recognition of the symptoms that mark, but not invariably, its existence, is of practical importance.

Our first thought will naturally be, why should a pregnant or parturient woman have convulsions at all? We take our first step upon the path of inquiry by considering the effects of the pressure of the gravid uterus upon some of the abdominal organs, notably the colon, the internal iliac veins, and the kidneys. The first leads to obstinate constipation, the second to distressing varicose veins in the lower extremities, but neither of these discomforts are fraught with consequences at all approaching in magnitude and seriousness to those that result from pressure exerted upon the kidneys by the gravid uterus, which is greatest between the eighth and ninth months of pregnancy, and is again intensified when the uterus begins its descent towards the pelvis, which is the *first* admonition of the advent of labour.

If we take merely a cursory view of the functions of the kidneys, and regard them as the means by which superfluous water is conveyed from the system, their importance would be sufficiently obvious. But when we further consider that the *tubuli uriniferi* may be compared to a magnificent system of drainage, through which waste tissues of the most varied and complicated kind are passed in a state of

solution through two main channels (the ureters) into a membranous muscular sac (the bladder) for final elimination, and that this process goes on unceasingly, we shall fully realise the stupendous issues that depend upon the functions of the renal organs with which gestation interferes from the purely mechanical pressure of the gravid uterus upon them.

These silent secrets of Nature have been wrested from her by the hand of science, and the urinary secretion in health and disease has been subjected to the most exhaustive examination. Let us first see how Nature, with infinite wisdom, deals with the "waste" products of the house of Life. As well as mineral substances to the kidneys are consigned the nitrogenous waste products of the surplus food and effete tissues, all containing albumen, which in Nature's plastic hand may be called the very corner stone of the building; to the lungs the "carbon waste" of the system—which Nature utilises as *fuel* to keep alive the spark of life, by maintaining the animal heat. The intestine ejects the unabsorbed alimentary matters; the skin, through its millions of pores, has a function not unlike that of the *tubuli uriniferi*, so far as the removal of waste products in solution in the form of perspiration goes, and we all know that the skin exerts a supplementary or vicarious action for the kidneys under certain conditions of renal distress. These are the three main channels of elimination for waste products and surplus ingesta which, if retained in the system, would be detrimental if not fatal to life.

Hence we see Nature never uses her materials twice over. Every vital act involves the using or rather breaking up of the good materials or the tissues, and these are at once replaced by new material. This marvellous balance of waste and renewal constitutes vital force or life.

The presence of albumen in the urine of pregnant women has long been known to obstetricians, and more than fifty years ago Dr. Lever marked out albuminuria as a probable cause of puerperal convulsion, and renal pressure from the gravid uterus as one of the causes leading to albuminous urine.

It has frequently been observed that eclampsia occurs more frequently in primipara than multipara, and notably in young and healthy country women; we can in a measure

account for this fact, that, in this class of patients, the abdominal walls are firmer, stronger, and less yielding to the resistance of the growing embryo than in multipara, and hence an increased renal pressure during pregnancy—congestion. The renal function is temporarily impeded, we get albumen in the urine, while the poisonous urinary solids are retained in the blood, instead of being eliminated. One of its effects in pregnant women is to produce what midwifery writers call uræmic puerperal convulsions.

I do not know whether the thought has occurred to other practitioners in midwifery, but it has often been borne into my mind, how much the pressure-troubles of gestation are increased by the upright position of women; amongst the equine or bovine mammalia, for instance, the weight of the growing embryo is borne by the abdominal walls, and the quadrupedal position still further helps to distribute it. We thus see by contrast how much more serious the risks of visceral pressure are in the one case than in the other. And I would observe, *en passant*, how the fatuous but preventible habit of tight-lacing adds to the inevitable pressure evils of the upright position; add to this some of the habits of civilisation (?) of women, and the chances against them are still further augmented. Then, again, quadrupeds do not injure their viscera by drinking alcohol.

In addition to the mechanical results of pressure, there may be recent or antecedent causes of nephritic mischief, the former often due to "chills" or injudicious dietary; the latter to old lesions, scarlatinal, for instance, and which by a blocking of the "tubuli" lead to the passage of albumen into the urine. One of the results of the checking of the renal functions is dropsical effusion; and in the malady we are now discussing anasarca has been considered a symptom of the existence of albumen in the urine; the *position* of these effusions is a matter of much importance, as I wish to point out to women engaged in our portion of work. It has been observed that these "swellings" attack the face, particularly under the eyes, and also the *upper extremities*, and in these cases it is far more prudent for a patient to take medical advice than to "doctor" herself. The presence or absence of albumen will at once be settled by testing the urine.

You must not confound these aforesaid effusions with the frequent oedema of the *lower extremities* and feet, for this is the effect of the pressure from the gravid uterus upon the internal iliac veins; and these swellings are not always painful, but always uncomfortable, and render moving about irksome; they disappear after delivery, and lead to no bad result. They are relieved by the recumbent position.

But there is another aspect of this dyscrasia more serious still—its effect upon the nervous system of pregnant women, which, as we all know, is in a state of the highest tension; sensitive to every influence, affected by every emotion, and one of the most depressing of those emotions is a feeling of fear as to the coming trial. In some women this dread is merged in the thought of motherhood, which swallows up all other fears; but in women of feebler frames or lower organisation it is not so, and a dread takes possession of them.

I have pointed out that the sympathetic nervous system dominated the sexual life of women, and that the *vasa motor* nerves directed the nutrient stream of arterial blood whenever and wherever it was wanted. All involuntary muscular acts, all emotions, all fears are subject to its sway. The nerves of special sense owe their nutrition to it. Can we not imagine, then, that if from any cause the blood stream is not *pure*, how these and all other organs under its sway would be likely to suffer? Do we not know how often in pregnant women taste and hearing, as well as *appetite*, are affected? Some are deaf, and, more singular still, some suffer from aphonia, or loss of voice.

As well as the nerves of special sense, other and greater nerve centres may be the seat of the attack—the medulla, for instance, that controls involuntary muscular actions, and through the phrenic or nerve of respiration, influences or paralyses the respiratory function. Again, the poison may attack a higher centre, and the brain be affected, setting up irritation or inflammation with effusion, and oedematous or hæmorrhagic apoplexy may ensue.

We have outlined some of the causes of puerperal convulsions, and we must now direct our thoughts to the

seizure itself, which is apt to be confounded with hysteria, epilepsy, and apoplexy. With respect to the first, hysteria is not a frequent concomitant of pregnancy, but on the approach of labour hysterical women exhibit uncontrollable excitement, which more often than not takes the form of unreasoning terror of the coming event, which most seriously impedes the course of the labour. And here I must impress upon nurses and patients alike how important it is in women of hysterical temperament to keep the bowels very freely open, more especially when the time of labour draws nigh, or there is any œdema of the feet.

An enema is desirable *when* labour commences; or, if that be objected to and time permits, a saline aperient, such as a seidlitz powder with a pinch of ginger taken in warm water, is serviceable, as it acts on the kidneys as well as the bowels, and a professional friend of mine is of opinion that it assists dilatation.

When labour has actively set in, the only means for calming the nervous excitement are anæsthetics (chloroform) or chloral hydrate. But as a matter of practical experience I can testify to the value of purging to begin with. The aperient should be an active one, such as thirty grains of compound jalap powder in a teacupful of hot water. If skilfully treated, the hysterical attacks lead to no bad results, and maternity ends all the trouble. I need scarcely tell my nursing readers that hysteria is more frequent in primipara than multipara.

Epilepsy.—It would be hardly necessary to describe the familiar symptoms of this malady, were it not that the fits have a strong *superficial* resemblance to eclampsia, and it is as well for a nurse to know how to act in *either* case on an emergency. Her patient may be an epileptic, and in that case a seizure need not occasion any great distress. I have attended many epileptics, but have no recollection of any bad results ensuing to mother or infant: and as a rule there was no fit at all at the time of labour. Supposing that a lady who was *not an epileptic* had a convulsion on the advent of labour that bore every feature of an epileptic fit, it would be a matter of the gravest import, and medical aid should be summoned at once; but your first duty

will be to treat it as such (epilepsy), and take measures accordingly until the doctor arrives.

Now what are the characteristics of an epileptic fit? Violent involuntary muscular actions of the limbs, lividity of the features from apnæa, facial distortion, all of which are present in a puerperal convulsion. Your first step is to protect the tongue from injury by the clenched teeth. I have seen instances when the tongue has been caught as it were behind the teeth, and the risk of suffocation increased by it. If possible at the moment of seizure place a piece of india-rubber or soft wood between the teeth. These plans are necessary also to keep the wind-pipe open.

To induce an inspiratory act, dip a sponge into cold water, and dash the water from it sharply right into the face, repeating as long as necessary. Loosen the clothes from round the neck and over the chest, admit air into the room at once from an open window, and keep it open till the fit passes off.

Wherever the patient is attacked there let her lie; the floor is about the safest place for her. *Gentle* restraint must be used to prevent injury to the patient from the violent actions of the limbs, remembering that these are struggles for breath, and that *suffocation* is the peril of the seizure. Now all these events happen in an epileptic convulsion. In what respect does eclampsia differ from them?

Those who are familiar with the former must have observed with surprise how quickly the effects of the seizure pass off, and many patients will rise up of themselves after an attack, and appear to be almost unconscious of what has taken place; and, furthermore, we know that the fit may *not* recur until after a long interval, and also that they are not often fatal. In puerperal convulsions, the fits return in *rapid* succession, and are very often fatal. There is also a peculiar sort of sibilation (that appears to come from the throat), difficult to describe, but almost diagnostic of the disease. Perfectly healthy women may be attacked who never had a fit in their lives before.

Apoplexy.—In certain cases (and as far as my experience goes the most often and most rapidly fatal are the seizures that resemble apoplexy) there may be *slight* facial distortion,

loss of consciousness—stupor—and the coma which deepens into death. This form is more frequent in multipara. The cases that end in recovery (and by far the larger number do under modern treatment) require no special nursing duties; you must prepare as usual for the reception of the infant, and make the same preparations for the labour. The case is entirely under medical direction, and you must be guided by it in all things. It may, perhaps, interest some of my younger nursing readers if I just touch upon the measures usually resorted to on these occasions. By the general consensus of obstetricians it has been decided to leave labour to follow its course, and to confine their efforts to controlling the disease.

Venesection was adopted by the older obstetricians, and at a time when phlebotomy was in the ascendant, and when women of all ages were “let blood” on periodical occasions whenever difficulties presented themselves, we can well understand that, in a conjuncture so grave as puerperal convulsions, the ever-ready lancet should be their first resource. The practice is obsolete now, for it was found that whether the attack were sthenic or asthenic, the results were far from satisfactory as regarded the mortality from the disease. *Purging* as a derivative treatment was also resorted to, and a free purge of compound jalap powder, or a dose of croton oil, was found efficacious at the first onset of the disease in alleviating the severity of the symptoms, and what was of more consequence, relieving the renal troubles.

Another plan that was brought before my notice by an eminent obstetrician was the constant application of cold water to the nape of the neck. The patient in these cases was on the bed, and they managed to get her head well over the side of it, face downwards, and dashed down cold water from a jug held high up. The calming effect of this measure was described as excellent, and no bad results followed.

Anæsthetics are now more resorted to than anything else; in the form of chloral hydrate, combined with bromide of potassium, and so on, or by inhalation, as chloroform. The controlling effect of chloroform over the paroxysms is indeed remarkable, so much so that it has almost led to an abuse of the remedy, and a patient has had chloroform

enough administered to lead to a fatal issue without any convulsions, which occasions some confusion as to its therapeutical value. It reminds one of the Irishman who, when a poor cow on shipboard had her leg broken in a storm and was despatched on that account, said, "She was killed to save her life!"

CHAPTER V.

PUERPERAL FEVER.

HISTORY OF—CAUSE OF—TREATMENT OF—ANTISEPTICS—
 INTRA-UTERINE, USE OF—MANAGEMENT OF THE SICK
 ROOM—VENTILATION OF—FOOD—FEBRIFUGES—FRUIT—
 STIMULANTS—MEDICINES—CHANGING ROOM—CHANGE OF
 AIR—VALUE OF MODERN SANITARY SCIENCE AS A PRE-
 VENTIVE IN CHILDBED.

It might appear at first sight that this formidable malady scarcely lay within the range of our work, but I think I can show my Obstetric Nursing readers that there is no portion of it where scientific nursing shines with such peculiar lustre as in this portion of it as a branch of preventive medicine, and hence we will enter somewhat fully into the subject. Like most students in midwifery, I read much upon it, and confess with profound humility that the more I read the less I know, and a somewhat wide experience in practical midwifery has not added very considerably to my knowledge of the matter.

What is puerperal fever? The Registrar-General classes it with the zymotic or infectious fevers, but it is only recently that it has come within the range of the Notification of Infectious Diseases Act, and, in my judgment, not one hour too soon. For the want of some such stringent measures a most formidable disease slipped through the hands of the sanitary authorities, and precautions against its spread, that might have been taken in a case of sore throat, were utterly neglected here. It has been urged that puerperal fever is not dangerous to the general community, which is true; but the fact that it *is* dangerous to an important section of it—child-bearing women—is, in my eyes, quite a sufficient vindication of modern legislation with respect to it. Of the zymotics, it bears in some of its characteristics a resem-

blance to two : Asiatic cholera and typhus—in its suddenness, severity, and rapid fatality to the former ; in its oftentimes weary, protracted course and protean developments to the latter. In some cases, as we know, a lying-in woman has the seeds of typhus or other disease in her system before labour commences.

But there is one great point that marks puerperal fever out as quite distinct from its kindred zymotics, sometimes modifying, but more often masking them, and that is the condition of women, for without the puerperal state we cannot have true puerperal fever, nor that without infection ; for I think I may say that the idiopathic theory of the disease is scarcely tenable now. Pyæmia should be taken apart from puerperal fever.

There are three formidable factors in the production of the disease—the zymotics, the cadaveric, and sewer gas poisons. The second, which in its day wrought awful havoc, is now extinct, for antiseptic precautions have made it innocuous ; the last, which if not a zymotic may be regarded as a zymosis, has not yet been dealt with *thoroughly* ; it is a matter of *household sanitation*, and every obstetric nurse, more especially those whose connection lies amongst the upper classes, knows the difficulties that beset our work from the want of it. We may palliate the evil by disinfecting closets and drains, but it can only be effectually met by two measures — scientific sanitary *engineering* and sound *plumbing* work, a brain to plan and hand to execute.

I have entered fully into the sources of water pollution, and the way to overcome them in Vol. I., Chap. IV., p. 37. The tanks that hold the water for the closets should be kept apart from those that supply the household needs for cooking and drinking, and this drinking water should be *boiled* before it is put on to the table or toilet bottles, if it is not drawn from the main. The water in closet tanks should be disinfected in the tanks, and *constantly* ; there should be ventilating slates in every closet, so that air is admitted night and day.

Calmly consider the state of things in many a stately country home, where sewer gas is constantly escaping, unheeded and alas ! unseen, from the weak points in the network of drains—I can scarcely call it drainage—that

intersect its basement in all directions, and can we deny that any precautions are too great to meet the evil?

My nursing readers in our portion of work know how many of our patients of illustrious and noble birth have had their lives jeopardised, and but too often, alas! sacrificed, for the want of sound household sanitary arrangements; and the same may be said of lives equally precious in the lower social scale. Every house where a confinement is expected to take place should be sanitarily *inspected beforehand*, and every closet, drain, and sink overhauled. There is much locking of stable doors after steeds are stolen, in matters sanitary; but, as *we* wish to keep *our* steed, we will bolt the thief out to begin with, and possibly save many a precious life that might otherwise have been filched. There are, doubtless, more factors in the production of puerperal fever than sewer gas, but none more frequent or more fatal than the deadly emanations from putrid sewers, a veritable Frankenstein, a monster let loose upon hapless humanity that shows no favour, and feels no ruth, at his fell destruction.

My nursing readers can well understand that a disease so formidable and fatal as puerperal fever should occupy a foremost position in the minds of medical practitioners. Without entering into details that are not within the scope of this work, we may say briefly that there are two points of view from which to regard the disease—the idiopathic and the septic. With respect to the former, I think we may safely say it is not altogether in consonance with modern medical thought, though it was held with the greatest earnestness by the elder obstetricians, which naturally led to that stumbling block in the path of true medical science, that backbone of quackery efforts at “cure.” Acting upon this honest but mistaken idea, a number of “systems” of treatment were evolved from the active brain of the physician, and Drs. A., B., C., and D., had all and each some pet method of treating the disease. They were mostly of the “pole-axe” order, and amongst other drastic proceedings, calomelising and leeching were held in high repute. These heroic attempts to defy the disease were not, on the whole, crowned with that measure of success their earnest votaries were apt to credit them with, for, if patients recovered, they also died under all “systems,” and the fever

pest held its own. It decimated, and more than decimated, the hospital; it desolated the home; lying-in women of all ages, all ranks and conditions of life, fell victims to it, and the disease cast its dread shadow upon lofty and lowly hearths alike.

In recent times a change came over the medical mind, and led to the very pertinent inquiry, "Why should a parturient woman have fever at all?" There is nothing in parturition *per se* to induce it, and might not the disease be more likely due to malign influences from *without* than within? In short, might not a lying-in woman "catch" or have fever conveyed to her as under ordinary conditions of health she might "catch" small-pox or have erysipelas conveyed to her?

The first outcome of the septic theory of the disease was an alteration of the "treatment," and immense doses of cinchona or quinine were freely administered—an improvement on the "pole-axe": but even these invaluable drugs did not wholly meet the case; they dealt with the existence of the evil, but they were not prophylactic. The next step upon the path of the septic theory was the topical use of antiseptics, and science had made two moves in the right direction. In the first instance antiseptic remedies were applied to the patient in the form of vaginal douches, and many practitioners got "douching on the brain," to the much discomfort and worry of their patients.

Then, again, the importance of *manual* disinfection on the part of surgeons, medical students, and midwives, became recognised; and this wise precautionary measure led to the beneficent result of a marked abatement of cases of puerperal fever, especially in its epidemic form. Still more recently—as my nursing readers are aware—obstetricians have insisted upon the extreme importance of midwifery nurses resorting to manual disinfection in the performance of their duties, and also disinfecting all utensils and instruments, and also the personal clothing used by them.

So far I have brought before the notice of my nursing readers medicinal, manual, and topical antiseptic remedies, but one and all of them may be robbed of half, if not all, of their efficacy if the household sanitary precautions I have just dwelt upon are *neglected* or *ignored*, for aerial contamination

may baffle them all, and the poisonous gas may attack the respiratory tract, and the pulmonary mucous membrane convey infection as well as the genital tract. Hence it is I attach so much importance to those disinfectants that are aerial purifiers, such as chloride of lime, burning sulphur, &c., and still more must we rely upon that great purifier of all, the oxygen of the atmosphere as it reaches us in the fresh air, for without continuous ventilation—that is *constantly* changing the air of the bedroom—no scheme of disinfecting can be *complete*.

With respect to the nursing duties required in puerperal fever I have but little more to tell you. They must be entirely subject to medical guidance, and cases vary a great deal. Assistance will be necessary, and the services of a medical nurse have to be obtained.

Whatever may be the path of invasion, the uterus is the focus of the disease, and when we consider its susceptible parturient condition, we can understand how readily infection may be spread through the system. Sudden and intense abdominal pain generally marks the onset of the attack. I have pointed out what *immediate* measures to take in a case of post-partum inflammation of the uterus, and they are the same here to begin with, but there is a marked difference in the cause of the two forms of the disease, viz., septic or traumatic. In the latter it more often than not yields to prompt and skilful treatment; in the former it is not so; it but too often defies all treatment, and every fresh symptom is an increased source of anxiety. Nothing really alleviates the intensity of the pain. We get septic vomiting, mostly of a bilious character, that nothing controls—as far as my experience of the disease goes the most disquieting point of all; sometimes diarrhœa that nothing checks, and exhaustion from either or both ends the scene; hurried respiration, insatiable thirst, hot sweats, a sallow hue of the complexion; and, in spite of the intensity of the sufferings, consciousness retained to the last.

I should not enter into these matters were it not to emphasise to my nursing readers how important are all the measures of antiseptic precautions I have brought before your notice. There are many people, even now, who consider them unnecessary “fuss,” but if these doubters could only

witness a case of septic puerperal fever, they would admit *no* precaution was too excessive or two *minute* to avoid it. Relying upon sound prophylactic measures, I hope and believe that puerperal fever will become as obsolete as the plague. We do know one thing—its ravages are greatly diminished under modern treatment and modern sanitation.

Other cases, again, run a more protracted course. There is more scope for medical treatment, and more room for hope; but even here defeat often baffles effort, and we feel there is no “cure” like “prevention.” In all instances the mammary secretion is checked, the lochial discharge lessened and very offensive, and antiseptic vaginal douching must be freely used. I have seen good results from cathartic enemata; the turpentine enema is most valuable. There is often flatus in the bowels and intestinal pain from that cause. The most hopeful symptom is for the patient to be able to take and *retain* food on her stomach, which must be given cautiously and under medical direction, for her chance of life depends more upon judicious feeding than anything else. Recovery is tedious and not complete without change of air. As a rule, the Obstetric Nurse accompanies the lady, and it is almost as beneficial to the one as the other after the long strain that such a misfortune as puerperal fever entails upon both.

We will now summarise the nursing duties in puerperal fever. The points of first importance are strenuous, sustained, and thorough antiseptic measures, and of all disinfectants there is none so safe and effectual as carbolic. The vagina should be douched twice a day with a solution of $\frac{1}{40}$, the vulva and anus washed with carbolic soap and warm water, and wiped dry with a soft napkin. But there is something more than external measures required in these cases, for as well as the genitals, the cavity of the uterus itself must be flushed out twice a day with antiseptic injections, *at the first onset* of the fever; and we know, whatever may be its modifications and developments, that the uterus is more often than not the focus of the disease. The disinfectant most used by accoucheurs being Condyl's fluid, one drachm to a pint of warm water. In Vol. I, Chapter VII., pp. 112-113, I have given minute instructions how to administer intra-

uterine injections, and refer you to them. They are generally given by medical men, but, in my judgment, they can be effectually done by any skilled Obstetric Nurse. The beneficial effects of this simple but scientific remedy is most marked, the results being a fall in the temperature and diminution of the pain; that is one of the most usual and distressing symptoms of puerperal fever. Writing from clinical experience, I am almost prepared to say that if this remedy, applied *promptly* and followed up, fail, I know but of little else that will succeed.

Before performing any bedside duties the nurse must dip her hands up to the wrist into a 1 in 40 carbolic solution, and again when they are done; in careful, common sense nursing the hands need scarcely come into actual contact with the external genital surfaces, which are, moreover, protected by the pubic hair, except in catheterism, not always required in puerperal fever. Before applying napkins to the vulva sprinkle them lightly with boracic acid or Vinolia powder. I generally use a new common tin pepper box for this purpose; when napkins are removed take them out of the room at once, and place them in a separate receptacle, say, a footpan; again sprinkle them with the powder, and have them sent to the laundry as soon as possible. The same with the bed linen and the lady's clothes. Such articles may best be disinfected with creosote water ($\frac{1}{200}$), which is a far more powerful antiseptic than carbolic, and does not stain nor rot the linen. The linen should then be thoroughly boiled and dried in the open air. Furthermore, all the child-bed linen must be washed apart from all other, including nurse's clothes. Bedside utensils and appliances should be disinfected before and after use, and taken out of the room at once; the same with the ejecta and dejecta of the patient.

Articles used for feeding the patient, such as feeders, feeding tubes, cups, glasses, &c., to be washed up at once after using. I use some of the Californian borax in the water for cleansing purposes. Be careful not to bring into the sick room more nourishment, fluid or solid, than is likely to be required for one time, and what is left throw away. Aerated water, drawn from a syphon, is the only article of food you can leave in the sick room with impunity. The

utmost attention must be paid to the ventilation of the sick room, which should be kept at an even temperature, all weathers, of 60° Fahr. I have laid down instructions as to ventilation (Vol. 1, Chap. V., p. 51) in my manual of "Obstetric Nursing." Disinfectants are required for the room especially under the patient's bed, sprinkled about with a small watering-pot with a long spout and a fine rose at the end, weak solution of carbolic being used, There is an old but simple way of refreshing the air of the sick room that can do no harm—burnt vinegar done in this wise: have a small iron kitchen shovel made red hot, pour upon it about a teacupful or more of cold vinegar, and as it volatilises disperse the fumes about the room, especially near the patient's bed, by walking about with it. When the room has been ventilated and the morning duties over this little plan seems to freshen things up.

I should advise a nurse to use the simple mouth wash and gargle I mentioned in Vol. 1, purified borax and caster sugar, equal parts (teaspoonful) to half a pint of boiling water; to be used when cooled down two or three times a day.

The feeding of the patient is a matter of supreme importance, and here the value of good nursing comes in. The strength must be maintained by easily assimilated and nourishing foods, containing the all important albumen which we find in meat, eggs, the casein of milk, and in oatmeal, given in the form of gruel. With respect to the first, as an immediate preparation we can use Brand's meat juice, given according to direction, or their meat and chicken jellies cold. Subsequently, strong beef tea made in the manner I told you of in Vol. 1, Chap. V., p. 56, and slightly thickened with arrowroot, and given through a feeder; and further on good gravy soup. As to eggs, they are much better given uncooked, and, in my judgment, plain rather than mixed with milk; beaten up to a froth in plain cold water that has been boiled, and a pinch of salt added, as the albumen of the egg dissolves more readily in water than alcohol, it would be more easily assimilated; and as milk contains albumen, we do not require eggs and milk together. The latter is better given mixed than plain, such as in soda water, or in gruel thinned down; but not made with milk. This last, invaluable in commencing convalescence,

is apt, if given abundantly, during the crisis of the disease to occasion an attack of constipation, very distressing to the patient; and what milk we give should contain its full proportion of cream; cream can also be added to chicken or other broths. I have given you directions how to test for cream in my manual of "Obstetric Nursing," Chap. VII., p. 136, and refer you to it. Stimulants given under medical direction are often most beneficial, and may be given freely—a tablespoonful of good old brandy or whisky, given every four hours, mixed with other nourishment, such as milk, beef tea, or barley water, but not, in my judgment, with eggs; in more serious cases stimulants may be given in larger quantities and at shorter intervals, the effects being carefully noted, as they are given medicinally. They appear to support the pulse, and counteract intestinal decomposition, and the flatus occasioned by it. With respect to drinks, thin barley water acidulated with fresh lemon juice; or soda water—ripe fruit, grapes, and pears being the most refreshing; they assuage thirst, and are food as well for the blood; ripe oranges also when obtainable are grateful to the patient—peel them, divide into small portions, take out pips and remove pith, and place the portions between the patient's lips with your dressing forceps.

Medication is under medical direction, but cathartic enemata, such as castor oil and turpentine, amalgamated with white of egg, are most serviceable, especially in tympanitis. In my own practice I emulsify the oils with sp. ammon. aromat., one drachm of the alkali to every ounce of castor oil used, and then add to the emulsion as much as you require of thin mucilage of starch well boiled and thinned down. Be sure to use *white* starch for the purpose. It must be injected warm. As a rule aperients are better given per anum, as they are often rejected by the stomach. Sometimes turpentine is given medicinally in puerperal fever in caster sugar or on a small lump of sugar, in doses of from 15 to 20 minims. It is considered to act as a nervine stimulant.

Opiates are given for pain, and upon abdominal poultices and stupes. If turpentine be added to the latter, instead of sprinkling it over the stupes, I prefer to add it to the hot water—two tablespoonfuls—into which we dip the

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stupes, which must be wrung out with your wringers in the way I told you of in Vol. I, Chap. VII., p. 121, of my Manual, and put on as dry as possible. Keep a tin saucepan on the hob filled with water and the turpentine, and dip in the stupes when you have to renew them. Opiates are also given to procure sleep. Quinine in 10gr. or 15gr. doses is sometimes prescribed, but these are not nursing points.

Assuming that the patient recovers, in due time the question of change of air will demand consideration, and the first step will be "change of room," and most grateful to the poor sufferer. I have given you instructions how to effect this change in Vol. I, Chap. VII., p. 105, and all the precautions therein enjoined are doubly necessary in this case. It is most important that the lady's bedroom should be thoroughly ventilated—windows open top and bottom, and door open, large fire kept up, and the room cleaned; the bed-clothes removed, and the bedding turned and shaken, and coverlets hung up in the open air.

When the lady is well enough to leave home, it is not unusual for her nurse to accompany her, as convalescence is often lingering, and there is much to be done that is best done by a nurse. But this is a matter for her employers to decide.

We have dwelt upon antiseptics as regards the patient and the sick room; let us now turn to the nurse. Puerperal fever is most intensely infectious to parturient women, and hence a nurse should have a period of quarantine before attending another patient. But there is something more than quarantine needed, for every article of apparel a nurse brought into the house with her should be subjected to the fumes of burning sulphur, a potent ærial germicide, before she takes them out of it. Assuming that nurse had a fur-lined travelling cloak or other articles of fur, what more likely media for the conveyance of "germs," though these articles had never been near the sick room? I would also include in the fumigation the clothes trunk, satchel, umbrella, and boots and shoes. I would also earnestly impress upon the inmates of the house, especially the women, that they should not approach a lying-in woman for a month after the fever, whether it prove fatal or not; and I urge the wisdom of this precaution because, although the disease

was not dangerous to them, the germs of it are omnipresent, and hence diffusible. As puerperal fever comes under the Compulsory Notification of the Infectious Diseases, the case will have to be reported to the health authorities, and the house thoroughly disinfected; and until then I again advise that all the inmates keep clear of any other house that has a lying-in woman in it.

Modern sanitary science has greatly diminished the risks of puerperal fever, modern medical and nursing skill have greatly lessened its mortality; still we have it in our midst as one of the greatest disasters of child-bed, hence we cannot sufficiently impress upon the minds of the community the inestimable value of all preventive measures, public and private. We will *not* have puerperal fever.

CHAPTER VI.

PUERPERAL INSANITY.

PECULIAR TO CHILDBIRTH—KINDS OF—ACUTE AND SUB-ACUTE—SYMPTOMS OF EACH—POINTS TO NOTE—CAREFUL OBSERVATION NECESSARY—TREATMENT OF EACH FORM OF THE DISEASE—VIGILANCE MOST IMPORTANT IN ALL CASES.

THIS mysterious malady afflicts women of all conditions of life, and is most uncertain in its results. Sometimes the attack is only partial, at other times protracted, and in extreme instances permanent, but in either case it owes its distinctive name to the fact that the *first* indications of the disease show themselves in childbed, or soon after. There are two forms of the disease, known respectively as acute mania, and sub-acute melancholia. The latter is marked by a deep and unaccountable nervous depression; in the former the sufferer often attempts the life of her infant, in the latter her own. It has been remarked that, as in puerperal fever, so in puerperal insanity, a woman loses all her maternal feelings and forgets or despises her offspring, but I have known the reverse to take place; and a woman has had a nervous dread of any evil befalling her child, manifested by a deep distrust of some *one* individual, who, to her distraught mind, means ill to the infant.

It is not necessary to enter into the various manifestations of the malady, but there are two points about it to be borne in mind—the presence or absence of fever symptoms. In the former case true puerperal insanity must not be confounded with the delirium which is a phase of puerperal or any other fever, and can be accounted for—in fact, we look for it; but, as far as my experience goes, insanity of childbirth is very difficult to account for, and equally so to deal with.

In the acute form (mania) the patient will often exhibit extravagantly high spirits—laugh, sing, and talk *incessantly*; her bright restless eye sends its wandering glance in all directions; she *looks you full in the face* whilst telling you some absurd rhodomontade or other. She is communicative, confidential, and often even effusive to her nurse or anyone around her. During all the cerebral turmoil, the sufferer frequently lies prostrate on her bed, makes no attempt to rise from it, far less quit the room. She will take food if pressed to do so, and is tractable in that matter. *Strong* fluid nourishment, and, of course, milk and eggs—uncooked if they can be borne—seem to do the most good. Stimulants must only be given under medical direction; port wine in soup is sometimes allowed; drugs are not of much use, for I have seen opiates make the patient *more* restless and wandering rather than soothe her. *Fresh* air is of inestimable benefit, night and day alike. The temperature of the room should be cool—60 degs. F.; the light should be darkened out during the day by a green *holland* blind, and the bed put back to the window. Heat about the head and pain across the temples are commonly present, and should be met by the usual cooling remedies. The infant has to be taken from the breast in all cases and artificially fed.

In the other form of the disease, melancholia, the very reverse of all the conditions we have touched occurs. Instead of unnatural excitement we get deep nervous depression; the patient is silent, sullen, and distrustful; weeps, and is oppressed with the idea that everybody around her (nurse as well) is treating her unkindly. Her downcast eyes and *furtive* glance under the lids mark suspicion and despondency. *She never looks you in the face* when answering any questions put to her, and more often than not preserves a sullen silence. The idea in her distraught mind appears to be *flight*, and if not watched she will attempt to rise from her bed and escape from the room. She rejects her food, and you can only get it down by stratagem or force. Appears anxious to get possession of her infant, under a vague impression that evil menaces her child. Takes a wayward dislike to her nurse, who sometimes has to depart on that account, but her successor fares no better.

I have just outlined the more salient points of the two forms of puerperal insanity, as in its incipience it falls within the range of childbed nursing; it is not necessary to enter into its later developments, as they are most uncertain, and, being for the most part protracted, they do not belong to Obstetric Nursing.

There is one nursing point of great importance in puerperal mania, whatever form the disease may assume—viz., *vigilance*. The sufferer must be *watched* unceasingly; but this watchfulness again must be marked by *apparent* unconcern, so as to lull suspicion on the part of the patient. The necessity for this care becomes manifest when we consider how often women in this distressful condition attempt to kill themselves or infants. Again, in their distraught minds an idea of *flight*—escape—appears to be ever more or less present in their thoughts.

We must ever bear in mind in treating these cases that puerperal mania, in whatever form it may show itself, is *essentially* a disease of *nervous exhaustion*, and drastic or depleting measures are to be entirely deprecated. Sustaining food, *sleep*, and fresh pure air are the best restoratives, and gentle but *firm* restraint must ever be exercised. It is important to keep the bowels open, but the selection of the aperient must rest in medical hands. Nor must stimulants be administered without the *knowledge* and sanction of the doctor.

Insomnia is an ever-present symptom of the disease, and we know, too, how frequently women suffer from it during pregnancy; but under ordinary circumstances sleep returns after delivery, especially in primipara. Sleeplessness induces nervous depression, and is a precursor of puerperal mania in almost all instances; and as far as my experience goes, ordinary opiates and sedatives fail in their ordinary effects to promote slumber. Quietude is an essential point to be observed, and, as sleep more often comes to the sufferer during day than night, precautions have to be taken lest those precious but fitful slumbers should be broken. Quietude is easy to obtain in country and suburban dwellings, but in towns very difficult and costly, as tan has to be laid down in front of the house to deaden street noise. And in these cases again we lose the blessed

influence of fresh pure air, notably when laden with health-giving ozone.

There is another point that falls under a nurse's observation, and sometimes gives her a warning of impending insanity—the *expression* of the patient's countenance. This fact we know holds good in all cases of sickness: medical authorities call it "facies," and an experienced nurse can often tell by the *look* of her patient what she is suffering from; and in our portion of work the countenance of the patient is most important, and needs careful study. In the acute form of the malady the symptoms declare themselves so decidedly that no one can possibly mistake them. It is in the subtler and more insidious forms of the disease that *observation* is so important, as tending to put us on our guard against the possible evils that may accrue from neglect of precautions.

A restless eye, a furtive or wandering glance, rambling talk, a hurried, nervous action of the hands, snatching things from you, as it were, instead of *taking* them; an apparent unconcern about her surroundings; is in a sort of dream-land; often cares not for anyone about her, and seems to have lost all interest in and all love for her infant. Distrustful of all, she suspects a sort of conspiracy of harm in her own house, and will try to flee from us all. She weeps bitterly or laughs immoderately without any assignable cause. These emotions of grief and joy mark very often the character of the coming attack.

I have just mentioned the influence of disease over expression, and this remark holds good in sickness alike in the *sleeping* as in the *waking* hours of our patients, and they who are much with the sick know how often and how surely the shadow of death rests on a slumbering face. Watch then the sleeping sick. What is sleep? The *rest* of the busy brain, and the calm, profound slumber of health alone restores it. In cases of puerperal insanity, the wearied, worried brain gets no real *rest*, and troubled dreams and restless gestures mark its exhaustion. Pay attention to this matter of sleep in all cases; not only ask your patient if she has slept, but *how*? Give diligent heed to the answer, for the "dream" may become a waking reality. "I dreamed," said a poor young patient to me when I called to see her,

“that I was wandering about in a strange place, trying to find a well to put my baby down!” (she was a country woman) “I was *so tired* carrying her!” The fact was she had got up in her sleep, and with her infant in her arms was trying to escape from the house, but happily frustrated in her attempt and led back to bed. She had no recollection of even having left it—it was a dream!

There is one matter I must touch upon before leaving this subject, that as Obstetric Nurses will sometimes come under your notice—*inebriation*. You must not confound the effects of intemperance that show themselves during lying-in with *puerperal mania*. The delirium of drink must be treated as such, and though the woman is ill she recovers. It is surprising what stratagems these unfortunates resort to to get stimulants, and how reticent they are on the subject. The first case of the kind that came under my notice puzzled and concerned me not a little. The patient had a good time, and I did not notice anything unusual about her then; when I visited next day she was another woman. Her face was furiously red, her eyes heavy, her utterance thick, her talk rambling, her pulse thumping away at the rate of one hundred and over. Asked the woman, who was with her what it all meant. Informed that Mrs. Jones had hidden a bottle of brandy in her bed, and partaken far from wisely of its seductive contents during the night. The contraband had to be confiscated, the woman watched, and all further supplies prohibited. The doctor had to be called in, and the patient was very bad, but got well. She laid all the trouble to having had a *tablespoonful* of brandy in her gruel!

CHAPTER VII.

LESIONS.

RUPTURE OF THE UTERUS—CAUSES OF—SIGNS OF—EFFECTS OF—RUPTURE OF THE PERINÆUM—ANATOMY OF—IMPORTANCE AS A PELVIC SUPPORT—INJURIES MAY BE DUE TO SPONTANEOUS OR MECHANICAL CAUSES—PREVENTION OF—NURSING DUTIES REQUIRED IN THIS LESION—VESICO OR RECTO—VAGINAL FISTULA—CAUSES OF—DIFFERENT EFFECTS OF LESION MAY BE DUE TO PROLONGED PRESSURE OF THE FETAL HEAD OR TO TRAUMATIC INJURIES—TREATMENT OF THE PATIENT—CLEANLINESS, HOW TO CARRY IT OUT—SERIOUS EFFECTS OF THESE LESIONS UPON THE MATERNAL HEALTH AND COMFORT—OPERATIONS REQUIRED FOR—HÆMATOCELE—CAUSE OF—POSITIONS OF THE THROMBUS—TERMINATION OF EITHER BY ABSORPTION OR SUPPURATION OF THE TUMOUR—VARICOSE VEINS—DUE TO PRESSURE UPON THE INTERNAL VEINS AND PUDENDA DURING PREGNANCY—BANDAGING REQUIRED—STANDING POSITION TO BE AVOIDED—RISK OF HÆMORRHAGE BEFORE DELIVERY FROM A BURST VARICOSED VEIN—TREATMENT OF SAME—CRURAL PHLEBITIS DURING PREGNANCY, OR SOON AFTER DELIVERY—DUE TO INFLAMMATION OF THE COATS OF THE VEINS—TREATMENT OF—HÆMORRHOIDS—DUE TO PRESSURE DURING PREGNANCY—VARIOUS MODES OF TREATMENT.

THE lesions incidental to childbirth very seriously complicate and retard convalescence, and we will therefore give them passing notice.

The injuries may affect any part of the genital tract, viz., the uterus, vagina, or perinæum, and implicate those pelvic organs most intimately associated with them—the bladder and the rectum. We will take them in the order enumerated

and begin with the uterus. There are two forms of injury to which it is liable—rupture and laceration. The former, and by far the more formidable and fatal, affects the fundus or body of the womb; the latter the cervix. Rupture of the uterus is one of the greatest calamities of childbirth, and if not immediately fatal from shock, it is rapidly so from intense septicæmia. It is marked by *sudden* acute agonising pain (which has been likened to severe cramp of the uterus), the suspension of all labour pains, internal hæmorrhage (but not invariably) from the vagina. Deathly pallor, an expression of terror and suffering on the countenance, coldness, rapid fluttering pulse, are the signs that herald collapse. There are also two serious complications with this terrible accident when the rupture is complete; a loop of intestine may escape through it, and give rise to symptoms of strangulated hernia, or hæmorrhage may take place into the abdominal cavity. Hence we see that there are three great factors to bring about a fatal result; two lives are sacrificed, for the infant is almost always lost in the catastrophe. There is another point to be borne in mind in rupture of the uterus (fundal), that it is more often traceable to *pathological* than to mechanical causes—the former may be due to a softening or degeneration of the muscular tissue of the organ, rendering it unable to bear the strain of parturition; the latter can only be due to crass negligence or culpable violence. The practitioner who is unfortunate enough to meet with such a misfortune as rupture of the uterus is apt to be the object of censures at once unjust and untrue, and an Obstetric Nurse should be one of the first to put the matter in the right light before the friends of the sufferer.

The injuries that affect the cervical portion of the uterus are far less serious and far more frequent than the fundal. They are of two kinds—rents and lacerations; the latter implicate the os uteri, the former the cervix itself; in some instances the whole disc of the vaginal portion of the cervix has been detached and expelled with the head. Unlike the lesions we have just been discussing, the cervical injuries are attributable to *mechanical* causes, for the most part due to careless instrumental or manipulative interference.

We may, perhaps, except cases of extreme rigidity as a

cause of lesions to the os uteri ; but these again can be so carefully and skilfully treated as to lead to no abiding mischief.

Laceration or rupture of the vagina may occur without involving the uterus, and may prove fatal. This lesion *may be* due to accident or violence previous to labour. In a case I have known the woman had been subjected to a brutal assault some days before confinement.

The Perinæum.—There is no portion of the parturient passages more subject to injury than the perinæum, and in almost all instances the mischief is due to mechanical causes. Spontaneous lesions to this merciful and protective structure are not frequent in skilful *patient* hands, and if occurring are of far less magnitude than those attributable to traumatic disasters. The perinæum occupies the space between the posterior commissure and anus ; it closes the lower outlet posteriorly and prevents the prolapse of the pelvic viscera, and a little reflection will show us the importance of this pelvic safeguard ; it is the last portion of the genital tract upon which the foetal head rests, and it at once guards and guides it into the world. The perinæum has veins, nerves, and lymphatics ; it has also a wonderful property of elasticity, rendering it capable of immense distention on the one hand, and a marvellous and almost instantaneous contractility after the expulsion of the infant on the other.

Lesions of the perinæum, unlike those I first brought before your notice, are patent ; they can be *seen*, and for this reason they have a great interest in Obstetric Nursing. Ruptures or lacerations of the uterus, either fundal or cervical, are invisible, and, except in the former, where they are declared by the severity of the symptoms, may remain unknown. Injuries to the perinæum may be partial or complete ; the former are called lacerations, the latter rupture, in which the whole of the structure is involved, and but too often the sphincter ani laid open. The seat of the injury in both cases is the central prominent line that anatomists call “raphe,” a seam or join, and its upper margin is the point of extremest tension during the final expulsion of the head. There are two opposite conditions of that important structure, the perinæum, that lead to precisely similar results. The one is an unyielding state that in mid-

wifery is called rigidity—*i.e.*, an immense amount of distensibility, combined with resistance to head pressure ; the other an extremely tender, almost tinder-like, condition of the integument, leading to too great laxity, and offering no resistance to the strain put upon it, and, with all the care that may be exercised, it may be impossible to avoid serious injury.

In the former condition—rigidity—much may be done to minimise, if not altogether avert, laceration. There are three points to be observed in these cases : Plentiful lubrication with vaseline (carbolated) during the distension of the structure, warm fomentations when there are signs of inflammation, and careful guarding of the perinæum during the final expulsion of the head, for at that crucial moment all lacerations, whether spontaneous or traumatic, take place, Cocaine is sometimes used topically to relieve the pain of distention, but that is a medical matter.

With respect to warm fomentations, I prefer to use soft old pieces of flannel to sponges (to which, I fear, I have a pet aversion) for our portion of nursing work. Not one nurse in fifty knows how to *really* keep them clean. The flannels should be wrung out of hot water as dry as possible, and applied all over the surface of the perinæum *during a pain* ; leave them there during the intervals, and re-apply a fresh flannel during the pains. The only amount of *pressure* to be used is of the *lightest*, just enough to keep the fomentations *in situ during* the distention of the perinæum, and before applying the flannels lubricate the integument over its whole surface.

With respect to “guarding” the perinæum, the *less* that is done with that intention the better, and hence it is right that you should know *why* we interfere at all, and *how*. There are three objects we have in view in this manipulation ; first, to take off the *lateral* strain of distention ; secondly, moderate the force of the expulsive pains upon the advancing head ; thirdly, to receive it at the very moment of expulsion, and relieve *central* strain at the raphe, the point of laceration. Now, how shall we do all this ? We will first take a clean, warm, soft napkin, and place it over the *left* wrist and forearm (which is bare to the elbow, leaving the *hand* perfectly free). *During a pain*, plentifully lubricate the tissue with your

right hand, and if there are signs of inflammation, apply a warm, moist flannel all over it, and keep it *in situ* between the thumb and forefinger of your *left* hand, resting the palm on the napkin, and, with a *light* but firm pressure, hold the perinæum *together*, as it were, and with the two forefingers of your *right hand* press on the vertex, and moderate the force of the pains upon it, and, when the expulsion of the head takes place, *catch the chin* quick as thought between the space of the thumb and forefinger of the *left hand*, and hold it up towards the pubis (but nothing more), and guard the perinæum during the expulsion of the shoulders. It may be desirable to withdraw one of the foetal arms if there is much strain on the structure, but do as little as possible in that direction.

I have found these simple manœuvres of great benefit in cases of rigidity, and believe injury can be averted by them, and they are such as any nurse midwife can safely exercise, remembering never to *interfere* at all unless there is a *reason* for it; for in midwifery, at any rate, it is infinitely wiser to do *nothing* than to do *wrong*.

There is another point I must earnestly impress upon my young nursing sisters in our portion of work—to *avoid* the pernicious practice that used (and I fear still does in some quarters) to prevail of *incising* a rigid perinæum. I *know* some nurses have been instructed to do this, and even pride themselves on their performances in that way! The operation (?) is done with a pair of frenum scissors, and two small vertical incisions are made on each side of the raphe. Now what is the result of this “heroic” interference? You simply anticipate one possible disaster by making sure of a *worse*. Such incision is utterly unjustifiable.

I have pointed out some of the conditions that may lead to spontaneous perinæal injury, principally as affecting the structure itself; others may arise from tumultuous uterine action, but it is not necessary to dwell upon them here. Those due to traumatic causes are more frequent, and, as a rule, far more serious, and but too often traceable to careless instrumentation. The advances that have been made in recent times in gynæcological surgery may palliate the mischief, but no surgery can atone for it—and as a matter of practical midwifery we know it is not an absolute guarantee

against a recurrence of the trouble in subsequent labours; and, after all, there is no "surgery" like "prevention." We must ever bear in mind that *all* lesions to the genital tract, great or small, add to the risks of septic absorption, and tend to render convalescence both hazardous and protracted.

There are two ways of dealing with injuries to the perinæum—dressings and sutures. Much depends upon the amount of injury inflicted; if of minor extent, the former will suffice; if of major, the latter will have to be resorted to—the number of stitches may vary from one to ten.

The nursing duties required in cases of injury to the perinæum vary according as to whether or not operative interference has been resorted to. Now what are the points that would naturally occur to us in either case? First, to bring the torn surfaces into apposition; second, to keep those surfaces surgically clean; third, to keep the patient quiescent. With respect to the first point, you know that in ordinary wounds—such as cuts on our fingers or thumbs—we bind them up in the blood with a piece of clean rag, and they heal by what surgeons call "first" intention, *i.e.*, an adhesive inflammation without the formation of matter. In lacerations of the perinæum the torn surfaces do not come together in the same way; they do not heal by first intention, and we have to promote healthy granulation—a natural reparative effort. Or we have to stitch the parts together, and hope for union by direct adhesion.

Let us see how Nature deals with the lesion in respect to the first point we have mentioned—the apposition of the torn surfaces. This is brought about by the marvellous contractility of the tissue itself. After the enormous distention of parturition, the perinæum contracts from side to side, and from top to bottom, and the open surfaces are brought together; and were it *possible* to keep the patient perfectly quiescent, in all ordinary cases nothing more than cleanliness would be needed, and this view is entertained by many obstetricians of great eminence, who decline to operate unless the sphincter is involved in the disaster. But difficulties beset us in this matter of repose. The pains that follow after delivery render the patient more or less restless. Again,

the recumbent position so necessary to be observed immediately afterwards, is not favourable to the lesion, which requires the patient to lie on her side—right or left is a matter of little consequence—and, in fact, the lateral position must be assumed as soon as possible after delivery. The knees drawn up, the feet resting against some *firm* support—such as a footstool with a pillow over it, or the bolster placed across the bed. The binder must be placed well below the trochanters and kept firmly pinned. Some accoucheurs advise pads to be placed on each side of the perinæum to keep the surfaces together. I have found Southall's *smallest* sized absorbent pads about the best for the purpose, each pad to be *firmly* pinned to the binder back and front with small safety pins. There is another point we have to consider—catheterism—which in cases where operative measures are *not* taken must be resorted to from first to last, that is until the wound is healed. The catheter *must* be passed whilst the patient lies on her side, but, with the exception of *position*, all the other methods and precautions are to be strictly observed that I pointed out to you in my "Manual of Obstetric Nursing."

And here I must digress a few moments to point out to my young sister workers in midwifery nursing the practical usefulness of being *ambidexter*—equally able to perform their duties on emergencies with either hand. In the case before us we will assume that the patient is lying on her *right* side, and on the *left* side of the bed (the reverse of what we like to have), and, as we know that the slightest unnecessary movement must be avoided, you will find it more gainly to pass the catheter with your *left* hand. Were the conditions reversed, with your *right*. The same rule holds good in applying the obstetric binder; you must accustom yourself to do so, whether the patient lies on the right or left side of the bed. In the latter, which we will call *left-handed* binding, we begin at the *top* of the binder instead of the bottom, and pin *downwards* instead of upwards. Before you begin to pin, place the binder in position over the hips. I often put a pin in to keep it there temporarily, removing it when I am half-way down in my binding, and in this wise we can bind very securely, though not so perfectly as in the orthodox obstetric position. As I said before, I advise all

young nurses to learn to bind right and left handed as occasion requires, and do many other things besides.

There is another matter that hinders the healing of the perinæum as well as movements, and that is the irritation arising from the vaginal discharges, and these are more difficult to deal with than micturition. And here again we shall find Southall's absorbent pads for women more useful than the ordinary diapers. As far as my experience goes, I consider them the lightest, softest, and most *absorbent* of any that are made; besides which I have seen Southall's pads made, which gives some value to my opinion, and I *know* how beautifully white, soft, and *pure* is the cotton of which they are composed, chemically desiccated to such an extreme degree as to render it capable of rapidly absorbing *all* moisture and yet *retaining* warmth; and in the case before us we get in them *all* the conditions we want—we have a wound to keep clean, discharges to sop up, and tenderness to soothe.

There is one point I must particularly impress upon obstetric nurses with respect to these pads, and that is to burn them *as soon as* they are removed; sprinkle a *little* turpentine over the pad, put it behind the fire *at once*, and in a few seconds it will be consumed. And this cremation must be carried out systematically so long as the pads are used. Some nurses put them into clothes baskets for the laundress to deal with; some into cupboards, until they have time to attend to them, or happen to think about them; and some—worse still—put them down the closets, leading to choked drains, and all the trouble, danger, expense, and annoyance such *culpable* misconduct entails. Unless you deal with these appliances on sanitary and common-sense lines do not use them at all.

With respect to dressings for the wound, I think you will find very soft linen or lawn rags—old pocket-handkerchiefs, for instance—better than lint; strips about two inches wide, and four or five long, will do. These must be dipped into any antiseptic solution you may be ordered to use; but, in my judgment, carbolated vaseline smeared on both sides of the rag is better than solutions. Take the rag up in your dressing scissors with your left hand, and with a fine steel knitting-pin, guarded by the rag, press the dressing gently

between the edges of the wound, and leave it there as long as it will remain *in situ*. Take it away when necessary with your dressing scissors, and put it behind the fire. With respect to vaginal douching, you must be guided by medical direction, for some accouchers do not allow it in these cases, and, in my judgment, they are right, for we do better with "swabbing" up the discharges with our absorbent pads than diffusing them with douches.

With regard to nursing points where sutures have been used, catheterism is not always allowed, as it might disturb the stitches; the same with douching, nor are dressings used, but in these cases I think you will find the method of *dry disinfection* I have already brought under your notice very useful, as tending to keep the wound surgically clean; and under most circumstances dry surgery is preferable in cases of perinæal lesion to wet. Finely powdered boracic acid is sometimes used for dressings, and this former substance adds to the antiseptic value of Southall's pads, and is used in their preparation. This should be dusted in freely.

I have pointed out how important quiescence is in these cases, and this nursing point must be carried out by the avoidance of all unnecessary movement on the part of the patient. She must not be allowed to leave her bed until the wires are removed or the wound healed, and all those instructions I gave you in my earlier papers, as to making the bed, changing the bed-linen, &c., without removing the patient from her bed, must be strictly carried out; the same care must be observed in washing and changing the patient. Remember careless nursing may undo all that surgery and science have done, and throw the patient seriously back in her recovery.

And here I must again emphasise the common-sense precautions of having the bowels relieved before labour, in all cases, for you see how important it may be in serious ones to have had that point attended to.

The diet must be principally fluid—milk, eggs taken uncooked, broths made strong. If an aperient has to be given, a purge perhaps is the safest, as we avoid the straining efforts that are so undesirable after perinæal injury. In cases where the sphincter ani is laid open, a subsequent and highly specialised operation will have to be resorted to when

the patient is sufficiently well to bear it; and this, again, will seriously retard her convalescence, though it will not entail any nursing points other than I have pointed out to you, except a few topical measures that we need not enter into at present.

VESICO OR RECTO-VAGINAL FISTULA.

We will now touch upon those lesions that not only affect the genital tract, but other and contiguous organs. If my nursing readers will refer to the plates in their midwifery text-books, they will see that the vagina lies between and closely adjoins two other pelvic organs—the bladder and the rectum; and hence it becomes at once apparent that injuries to the vagina, unlike those to the uterus or perinæum, lead to collateral, and in either case to very distressful, conditions. The seat of the lesion is the vaginal walls, and it may arise from two causes:—First, *prolonged pelvic pressure* from the foetal head, leading to inflammation, sloughing, and the formation of fistulous openings into the vesical or rectal parietes; or, second, to *direct* injury to the same from a careless use of forceps. The former is the more frequent cause, the latter by no means *unknown*; and experience shows us that the disaster unhappily arises in both instances from bad practice.

We will take the vesical trouble first, and it is obvious that the diagnostic symptom that marks it is the escape of the urine *per vaginam*, and there is an important clinical fact to be observed, that this symptom may, either *directly* or *remotely*, result from the lesion. If it has been brought about by the first-mentioned cause—prolonged pelvic pressure from the foetal head—it may be some time after delivery before the dribbling of urine is observed, and hence the lesion remains undiscovered, and even unsuspected, until then. If, on the other hand, the vesical injury is brought about by careless use of forceps, it is declared at once by the characteristic symptoms.

There is a clinical point to be observed with respect to the last-mentioned cause of vesical damage to which I must call the attention of my readers—that it may be masked by incontinence; that is, the involuntary passing of urine after

delivery from causes quite unconnected with the lesion in question. For instance, during the birth of the head, some of the pelvic nerves may be pressed upon, and, as a temporary consequence, the muscular control over the bladder be suspended. How are we to know infirmity from lesion? In this wise: The bladder must be evacuated, and then milk injected into it. If the fluid return *per vaginam*, we know vesical injury exists; if by the urethra, it does not. The trouble is of short duration, and need not occasion any anxiety, as the natural function returns when the cause that arrested it is overcome by repose, nourishment, &c., after labour. There is yet another cause that may lead to involuntary escape of urine that is not due to anything occurring during labour, but after, and that is, over-distention of the bladder from too long retention of urine, and leading to paralysis of the vesical walls. I know not whether shame or anger most fills my thoughts as I write these lines, for well we know that this disaster *cannot* happen to our patients unless from the crass ignorance or neglect of those in charge of them; and were it not that we *know* that such stupidity exists, it would take a great deal of "telling" to make us believe it.

We will now turn to the more practical part of the matter, and touch upon the nursing duties required in cases of involuntary escape of urine, be the cause what it may.

Our first care is cleanliness. How shall we carry it out?

There are numbers of surgical appliances that are said to be useful here, and you may have medical instructions to use them. But for my part I prefer to resort to simpler measures, though it may give us more trouble, and prefer to use constantly renewed draw-sheets, as being on the whole more conducive to the comfort of the patient. The best draw-sheets for the purpose are folds of old soft blankets, and being porous they are easily washed. The waterproof sheeting (which shares my nursing affections with sponges) must be always used—we shall require two pieces. The patient's hips should be covered with a flannel petticoat, and this again should be open all down the front, and we shall require two of them at least; the nightdress kept *above* the hips. Now, how will you deal with these blankets and flannels when you remove them so as to keep them clean

and purified? We shall require four sets of draw-sheets, such as I told you of. When you take any one of them away from the patient place it in a foot-pan, and have it taken away and *at once* rinsed through an *abundant* supply of clean *cold* water, wrung through the machine, and again rinsed in plenty of *cold* water, wrung as dry as possible, and hung out in the open air to dry and sweeten as long as you can spare them, then brought in and aired by the fire, and sent up to your room for use, and this process must go on as long as the necessity for it exists. The one point you are ever to bear in mind is to have the pieces of blankets and flannels put into plenty of *cold* water at once; never allow them to get dry until *after* they are washed. You may say all this is a great deal of trouble, but as far as my experience goes you will be repaid for it in the comfort of your patient. There is no *gêne* about these arrangements, which is more than you can say about more ambitious measures. You will have to change the waterproof sheeting every day. When not in use it must be kept *constantly* in the air after being thoroughly flushed with fresh water and disinfected.

We all know what an inestimable advantage good laundry arrangements are in all nursing work, and in our position doubly so, for we have two patients to keep clean; and by laundry work I do not mean that ornamental part of it commonly called clear-starching, for that to us is a matter of comparatively little consequence, but good washing, in which abundance of water plays a leading part, and soaps ("hard" or "dry") a secondary, and either or both should be *thoroughly* rinsed out of the linen before it is dried, and this again should be done whenever possible in the open air. My readers may say all these arrangements can be easily carried out in country or suburban houses, but what are we to do if we are nursing a lady in a typical London house, in a typical London street, where the outside space (?) is limited to a few feet of area? Well! we have to fall back upon our washerwoman, and in a measure lose our control over matters. We must arrange to have the soiled linen sent for *every morning* and returned the following day—the *less time* it is away the better; also, that *all* the childbed linen is to be washed *apart* from all other, and so much

importance do I attach to the sanitary advantages of *isolation*, that I would extend the same rule to the nurse's washing and have it all done by the same washerwoman.

When we had to deal with the nursing trouble we have touched upon, and under *urban* conditions, we must palliate the evil in this wise: As soon as the draw-sheets are removed put them into a large pan of cold water and have them rinsed out, while fresh water is kept running through from the tap. When flushed clean you can put the blanket under fresh cold water, and then stir in an ounce of carbolic acid or half an ounce of creosote, and then leave it till it is fetched for the wash, after which it will have to be dried and aired before the fire when you get them back. And here I must pause to observe that it is quite as much the duty of the friends of the patient to see that good laundry arrangements are *carried out* as a nurse's; in fact, without such co-operation they cannot be efficiently and properly completed. We often have to put *pressure* upon the laundress to get things well done, and this salutary coercion is better exercised by her employer than the nurse, who cannot put into force the pains and penalties disobedience to instructions would entail. Let sanitation not only be talked about, but turned to practical use in the *little* things of daily life, that add so much to daily health and comfort, and are never more necessary than in times of sickness.

To return to our duties. Boracic acid powder with blow tube (tube *must* be dry) applied twice a day to the vulva. I find it desirable to raise the feet on a pillow to a level with the hips. All chilling should be carefully avoided, and the skin kept warm and moist. Drinks should be taken warm, and as little as possible at a time.

It is not necessary for the patient to remain in bed beyond the usual period, if well enough to get up, whether the convalescence be due to temporary or local causes. It is desirable for the patient to gather strength for the operation that will be required to repair the injury, and it is always well also for the patient to nurse her infant if possible from the first.

Recto-vaginal fistula is less frequent and more easily cured than those fistulas that involve the bladder; they arise from the same cause—prolonged pressure from the foetal

head or careless use of forceps. The sphincter ani may remain uninjured, and the vaginal perforation be of minor or major extent, in the one case leading to discomfort, in the other intolerable misery, and, like its kindred trouble, it is in surgical reparation alone that relief is to be found.

With respect to the nursing duties required in this last-mentioned lesion, cleanliness is still the point to be aimed at, though it has to be carried out somewhat differently, and with less trouble, as my nursing readers can understand, and we have to meet the difficulty much on the same lines as we do in our *little* patient. In some cases the fœcal escape *per vaginam* is only slight, and, if the integrity of the sphincter is intact, defecation may take place under ordinary conditions; but in severer cases involving the sphincter, the fistulous opening is large, and the misery resulting from this cause is inexpressibly distressing.

I have dwelt somewhat fully upon these sad lesions of childbirth, for there are few that inflict more misery upon the sufferer, and call for more compassion and nursing care on the part of those whose duty it is to tend her; and our pity deepens when we reflect that the injury is *always* due to mismanagement at the time of labour, be the practitioner man or woman, for *unwise* delay on the one hand, or reckless instrumental interference on the other, bring misery to the mother and sorrow to the home.

Before quitting the subject of lesions, I will bring before the notice of my readers two or three troubles of childbirth that, primarily due to pregnancy, reach to serious developments during or soon after labour, and in all cases retard convalescence. These are hæmatocele, varicose veins, and hæmorrhoids.

Hæmatocele.—These blood swellings are caused by the pressure of the fœtal head upon the pelvic blood vessels during the second stage of labour, leading to intense venous congestion, and an extravasation of blood into some portion of the genital canal. The thrombus most frequently forms low down in the vagina, or in the labia; this last being the more favourable position, as we can see the mischief and be on our guard against it *ab initio*. The appearance of the vulva in some cases of labial hæmatocele is most singular; the parts are enlarged, hard, tense, and livid, and present a

"shiny" appearance quite characteristic, but difficult to describe. The rapidity with which the tumour increases is most remarkable, and so is the size to which it attains. There is only one way to meet this serious complication, and that is *prompt* delivery—the more skilful the hand the better to avoid risk of abrasion. Although delivery places the patient out of immediate danger, there are grave risks to be feared from the disaster; the thrombus may burst and hæmorrhage result, and this is more likely to occur when the seat of the extravasation is vaginal. In some rare instances the tumour is opened and the coagula liberated; but in either case the resulting hæmorrhage is controlled by swabs of cotton wool, dipped into a solution of perchloride of iron and pressed firmly on to the exposed surface.

The most favourable termination of hæmatocele is absorption after delivery; but this does not always take place. The swelling may inflame, suppuration take place, and the septic risks be seriously enhanced. In these cases great care has to be exercised to keep the wound clean. It must be dressed with boracic acid lint and well dusted.

If the lesion is labial, antiseptic swabbing with boracic lint and wool may suffice in cases of abrasions of the surfaces, combined with bathing the wound if necessary. If there be inflammation bread and water poultices may be required. I like them made with crumb of a stale tin loaf, commonly called French bread, as being lighter and more spongy than any other; the *better* the bread the *better* the poultice. Be sure to make it with *perfectly* clean *boiling* water, and cover the basin instantly with a plate or saucer, and let the bread soak well before you apply the poultices; it will make it all the softer. For the purpose under notice I prefer to put it into a piece of old book muslin that has been made soft by frequent washing, squeeze the bread as dry as possible, and fold the muslin round it so as to keep it together. The poultice can, of course, be applied directly to the surfaces if preferred. When you apply the poultice, cover it over with a *piece of flannel*, and fasten it top and bottom to the diaper with safety pins. I never recommend oil silk for this purpose.

The diet must be sustaining, the bowels kept open, and tonics such as quinine are generally ordered. Suckling may

have to be abandoned, and the patient must lie in bed for a week or two beyond the usual period.

Varicose Veins.—This familiar malady of child-bearing women is an enlarged condition of the superficial veins of the lower extremities and vulva, and is brought about by the pressure of the gravid uterus upon the internal iliac veins impeding the upward current of the blood. The trouble is relieved by delivery, but not always cured by it. It has been observed that the veins of the *left* leg are more frequently and more seriously affected than the right, and one reason for this is to be found in the increased pressure from that portion of the descending colon called the “sigmoid flexure,” which is lodged in the left iliac fossa, and this pressure is greatly increased by a loaded condition of the intestine; and the best method of relieving the obstruction to the venous circulation from this cause is to keep the bowels regularly open. Rest in the recumbent or semi-recumbent position—that is to keep the feet *raised* when sitting in a chair upon another chair, or a high stool—is very necessary. *Standing* should be avoided as much as possible, though gentle exercise in the open air daily is much to be commended during pregnancy. A pregnant woman should keep herself in condition by regular exercise. And here I must point out how detrimental to the uterine health of women is *continual standing* quite independent of pregnancy. Long sitting can be compensated for by a brisk walk, but too much standing renders exercise irksome, and makes a woman feel always tired; and our hospital records tell us how much they suffer from being kept too long standing, and this is one of the many preventible evils from which poor nurses suffer. I really think I could pick out a nurse by her feet *sans* uniform!

After rest comes mechanical means to obviate the effect of pressure upon the veins, an abdominal belt 4 inches wide to support the weight of the gravid uterus, is most serviceable, and surgical stockings or 6-yard flannel bandages to relieve the lower limbs. There are two possible accidents that may be averted by carefully bandaging the affected leg—hæmorrhage by the rupture of a vein, or bruising the coats of a prominent vein on the unprotected limb, by a blow, which may lead to a varicose ulcer, and of most intractable character.

Hence you see how important it is to have the leg bandaged *constantly*, or wear an elastic stocking. I prefer the former plan, and to most women it is the more *bearable* of the two forms of support. As the period of labour approaches the veins become more and more enlarged, in the upper part of the thigh almost amounting to hernia, so great is the pouching of the vein. Not infrequently inflammation of some portion of the veins takes place, and under this circumstance *absolute rest must* be enjoined. When labour commences the pain from these inflamed veins is most distressing to the patient, and hinders its progress, as she cannot bear down to her pains, and after delivery there is not much ease from pain for some days afterwards, for there is heat, redness, swelling, and *hardness* in the affected veins. The most frequent places are the calf, the under part of the knee, the ham, and the thigh; but, whatever the position, the alleviating measures are the same. The limb must be slightly raised on a pillow, hot fomentations applied, sedative lotions used. I have seen most relief from the belladonna liniment, which should be painted over the swelling with a good-sized camel hair brush, or belladonna ointment lightly smeared over the part, but the lotion is the better of the two; but whichever or whatever is applied must be done with the *utmost gentleness*, and *friction absolutely avoided*, for you can understand that the inflamed condition of the coats of the veins tends to still more obstruct the venous circulation, and hence favours coagulation, with its attendant risk of embolism. The limb should be wrapped in wadding. It is most important to protect it from cold, or rather "chilling." The patient must not be allowed to leave her bed, or put her foot to ground, until all inflammation of the veins has subsided and medical sanction has been obtained to rise. The limb has to be bandaged, and kept so for some time after confinement.

Hæmorrhage from a burst varicose vein may take place during pregnancy or at the time of labour, especially if the precautions I mentioned to preserve the veins from injury have been neglected. If no medical man is present, have the limb raised, and press firmly with the ball of your finger upon the bleeding vessel, and *keep it there* till aid arrives; the doctor must be sent for at once, and the nature of the

case stated to him. The nurse may get someone to tie a handkerchief dipped in cold water or wind a bandage tightly round the leg and below the lesion. I have found a flat cork, with a pad of rag or lint under it, better for making pressure with than the finger ; but these appliances are not always readily obtained. The main point is to keep up continuous firm pressure upon the open vein below the lesion until the doctor comes.

Inflammation of the veins of the leg (crural phlebitis) hinders the patient's convalescence ; the circulation must be maintained by sustaining food, which with warmth and rest will aid absorption. A dull sort of congestive headache is sometimes complained of, and susceptibility to cold, a feeling of chilliness. Stimulants had better not be given unless under medical direction, but a cup of coffee in lieu of the afternoon tea seems to relieve these symptoms. As a cup of coffee is a useful stimulant during some phases of convalescence, a nurse should know how to make it well. The coffee should be made from *freshly*-ground berries. The best are the cheapest, and the Mocha coffee unadulterated should be used. Before grinding, the coffee should be dried before the fire until quite crisp, then put at once into the mill—a small hand-mill is the best when we only have to make one cup of coffee at a time. A tablespoonful of ground coffee is sufficient for a cup. A small cafetière, sometimes called a percolator, must be used to make it. Coffee should *never be boiled*. The cafetière consists of two separate parts of equal size ; the upper one, in which we make the coffee, has two strainers, one *fine*, fixed at the bottom, the other *coarser*, and movable to fit at the top ; also a tin disc the size of the lower strainer, with a slender stem long enough to form a convenient handle to lift it on and off ; a good deal goes to this contrivance, as you will see. The lower part of the cafetière receives the coffee when it is made ; it has a spout, to which is attached by a fine chain a tin cap to fit over it ; this should be put on at first, and kept on till the coffee is ready to pour out, its object being to keep in the aroma. Put the two parts of the percolator together, pass some hot water through it to make it hot, pour that out, put in the ground coffee into the upper part of the cafetière

over the disc that covers the fine sieve at the bottom of it. I emphasise this because servants and others are addicted to putting the ground coffee *under* the disc, and thereby spoiling our coffee by making it thick. Fix the upper strainer in its place, and pour through it gently as much boiling water as will fill the upper part of the percolator; then at once put on the lid, stand the percolator on the hob or before the fire to keep the coffee hot whilst it runs through. My nursing readers can see by this homely description that the three points to aim at in making coffee are—1st, preserve the aroma; 2nd, to make it clear; 3rd, to serve it hot. There are countless contrivances for making coffee, but the one I have brought before you is simple, practicable, and reliable, and a nurse can make it herself at any time it is required, and hence the best for our portion of work; we do not often require coffee for our patients, but when we do it should be of first-rate quality and well made, and under these conditions it is a serviceable and delicious stimulant. Coffee may be served with milk or without. In the second case it is called *café noir*, to which *liqueur* or brandy can be added; in the first, *café au lait*—the milk should be made hot, or cream may be preferred instead.

Hæmorrhoids.—This painful affection is a pressure trouble of the latter months of pregnancy, and though relieved by delivery is often aggravated by the straining efforts of labour; the mucous coat of the bowel becomes everted and strangulated, protruding beyond and around the anus, becoming swollen, tender, and inflamed, to the great misery and discomfort of the sufferer, which we must do our best to alleviate. We have first to protect the pile from the irritating effects of the vaginal discharge; to subdue the inflammation and swelling; to soothe the pain; and as soon as possible reduce what we may almost call the rectal hernia.

There are innumerable remedies for these conditions, and the choice of them rests in medical hands; but I will just bring before my nursing readers the simple measures that I have found to be efficacious and comforting to my patients.

To protect the pile, take a tablespoonful of the very *best*

linseed meal, and make a *small* poultice (you can stir in a little bit of cold cream, or half-a-teaspoonful of olive oil), inclosing and *covering* it with a piece of old, soft clean muslin, or soft fine net; we do not wish the meal to touch the surfaces. The patient must lie on her left side close to the edge of the bed; the pile must be bathed with a weak solution of Condyl's fluid (warm), and mopped dry with a soft napkin, and plentifully smeared with vaseline. The poultice, or rather *pad*, must be carefully packed, as it were, all over and round the pile; an absorbent pad will be softer than a napkin to place over it, and both must be renewed when necessary; this plan will subdue the inflammation. To soothe pain the topical application of opiates is resorted to, and as we have to reduce swelling as well they are combined with astringents. The familiar ointment, of gall and opium is serviceable here; but I prefer to use the gallic acid dissolved in glycerine rather than mixed with fat. The glycerine acidi gallici B.P., with equal parts of tinct. opii., applied from time to time all over the tender surfaces with a good-sized camel's-hair brush, is more cooling and comforting than the more popular preparation. When the inflammation and swelling subside, we must endeavour to gently press the pile to its place, using the linseed-meal pad for this purpose. To prevent its returning we can exert still further pressure by taking the vaginal tip of our syringe, and covering it half-way down with lint or old rag smeared with vaseline, passing it into the rectum for an inch or two. Sponge carefully first. This may have to be done after every action of the bowels. Saline aperients are about the best; at all events they are recommended by accoucheurs of considerable eminence. The diet should be purely farinaceous food, served, but not made, with milk; and no better farina than the finest Scotch oatmeal can be found; strong broths or stimulants should be avoided; fish may be partaken of. These rules apply only so long as the malady lasts. Under ordinary circumstances the measures I have described to you afford relief, and the trouble is ended in a few days. In severe cases it is only surgery that can effect a cure; but no operation can be attempted until some time after delivery. We can only palliate the evil.

Before concluding this portion of my work, I will say a

few words upon the subject of linseed-meal poultices, Happily we do not often require them in Obstetric Nursing (and it is to that only my remarks are confined), and when we do, they are almost always for abdominal application. How shall we make them, and how shall we apply them? Use only the *best* — that is, the linseed meal that has *not* had its natural oil crushed out of it — and remember always to put the meal *to* the boiling water, and not the water to the meal; and furthermore to let the meal boil up well before pouring it out. The proportion of water to meal is soon learned by experience, so that you avoid the two extremes of sloppiness and stiffness. Sometimes mustard is added; the *proportion* of mustard to meal must be fixed by medical direction. A random order to make a linseed meal and mustard poultice is no order at all. A nurse should know whether the counter-irritant is to be a third, or a fourth, or a sixth part of the poultice. Sprinkle mustard over the face of the finished poultice. What shall we spread a poultice on? There are a number of things, but I will bring before you what I think best for our purpose. I advise *coarse* book muslin that has had all the stiffening soaked out with cold water, or old muslin. For the sake of illustration, we will assume we want to make a poultice eight inches square; the muslin must be folded to that size double, and spread half open, ready for the meal. Now what shall we put our muslin on before pouring out the meal? We do not *often* get slate slabs in private houses! I *once* requisitioned a *marble* pastry slab! How many times would that happen to us? So we will modestly content ourselves with a large-sized meat dish, and turn it upside down, and so extemporise a *clean* slab. Rub a little olive oil all over the dish with a bit of flannel or swab of cotton wool; place half the muslin over it, and pour out your meal and level it. Then turn the other half of the muslin over the meal—in fact, wrap it up, turning in the open sides and corners to keep the poultice together. Have two large dinner plates quite hot, slide the poultice off the dish and on to one of the plates, cover the other over it, and take the poultice to the bed-side for application, say, over the uterus. I like to smear vaseline over the part myself, and then, uncovering the

poultice, slip it off the plate, smooth side downwards, into position. By this plan you do not disarrange the poultice in the least, nor scarcely touch it with your hands. Place over it some of Southall's absorbent sheeting; cut the right size to cover the abdomen, over that the binder pinned firmly but gently, to keep both pad and poultice *in situ*. You may have medical instructions to supplement these by some *impermeable* substance in the way of oiled silk or waterproof sheeting; but, for my part, I neither use nor recommend them. You may ask, why all this? For this reason—we do not want the meal to be *next* the skin; there is no abscess to “draw,” no wound to cleanse. We use the poultice for its heat-giving and heat-retaining qualities, combined sometimes with irritating ones. The *coarse* muslin does not hinder any of these purposes; it keeps the poultice together, and avoids “mess,” and comes away clean. When removed for renewal, have it burned at once.

PART II.—INFANTILE.

CHAPTER I.

MAL-PRESENTATIONS.

BREECH CASES PERILOUS TO INFANT — TREATMENT OF —
MORTALITY FROM — FACE PRESENTATIONS — EFFECTS ON
INFANT — TREATMENT OF — BROW OR PARTIAL FACE
PRESENTATIONS — APPEARANCES OF — TREATMENT OF.

WE will consider the infantile troubles arising from head last, commonly called “breech” labour. The chief peril in these cases arises from compression of the cord by the head, and the point of danger lies in the upper strait of the pelvis, and the pressure is sometimes so prolonged as to prove fatal. Under favourable conditions, the birth may take place with perfect safety to the infant, and by the natural powers alone, and no special nursing care is needed. In the majority of cases the infant is live-born, and so far the danger of cord-pressure overcome. Are there, then, no others to menace the infantile safety? There are, and here good nursing will come in.

The interruption to the foetal circulation takes place when the head is clearing the pelvis, and ceases only on its complete expulsion.

The troubles we are about to discuss occur *in utero* and during labour, hence they affect the infant. Prolonged parturition, as in primiparæ, is a very untoward factor in increasing the pressure perils in breech cases, the parts of

the foetus most affected by them being the cranium, the abdomen, and the genitals. With respect to the former, we must bear in mind that in breech labours the force of the fundal muscles is transmitted to the crown of the head. The very reverse takes place under normal conditions, when the foetal head is protected from their expulsive power by the intervening portions of the child's body. In rapid labours this cranial pressure is a matter of no moment, but in protracted ones it is so serious as to tend to the speedy death of the infant, even though it be live-born. The symptoms are the same as those arising from severe pelvic pressure in head-first labours. The countenance has an expression of misery; sharp, shrill, pitiful cries continue intermittently until the end; although the pulmonary circulation may have been temporarily established it cannot be maintained.

What is the effect of prolonged abdominal pressure? And we must remember we are discussing the unfavourable aspects of a complication of childbirth—serious at the best. The evacuation of the meconium from the intestine is a natural consequence of breech presentations, and is generally regarded as diagnostic, though this is not always so; for the meconium may escape into the foetal sac under other conditions, and it is only after the rupture of the membranes that we perceive it in the cases we are considering. The more tardy the expulsion, the more severe the abdominal pressure, the more profuse is the discharge of the meconium, and in severe cases the infant is greatly distressed; the abdomen presents a sunken appearance, dragging, as it were, from the diaphragm, the limbs hang listlessly down; the infant is too feeble for cries. As soon as the infant is separated, he should *at once* be wrapped in hot flannel, and placed on a pillow near the fire. Nourishment must be administered promptly. A teaspoonful of milk, or, better still, cream—one of warm water, and ten drops of pale brandy must be given from the reversed nipple shield I have so often told you about, every quarter of an hour until baby revives. The washing and dressing must be deferred for at least an hour (or even several hours) after birth; and all the precautions I have pointed out to you in earlier papers be *strictly carried out* to avoid chilling the abdomen. You

must take very tender care of your little patient for some days, remembering that coming into the world has been a very severe ordeal to him.

Amongst our older obstetricians it was quite a routine practice, in order to "resuscitate" in severe breech cases, to resort to measures of the most drastic (dare I write "barbaric?") character — worse than the evil they were supposed to meet; for *when* successful, they could have been dispensed with, and when not, why? I allude to the alternate hot and cold effusions. Nurses had to prepare a pan, or basin, of hot water, and one of cold, and poor baby was "doused" first into the one and then into the other, until every spark of vitality (if he ever had any) was "doused" out of him.

The writer, in earlier days, has witnessed these remarkable manipulations, and mentally resolved never to be personally responsible for them. Happily better times brought us better measures, and, I am confident, decreased the infantile mortality in these instances. I shall revert to this subject farther on.

Genital pressure, leading to congestion of the scrotum, or vulva, is not a serious matter, unless (especially in the former case) there has been manual injury during labour; and I have known inflammation of a bad character caused by it; nevertheless, care must be taken of the genitals until all swelling and tenderness subside. The bath is a great comfort here, and the parts must be carefully dried and powdered. In applying the napkin the nurse must be careful not to fasten them too tightly, and change them rather oftener than usual, and these troubles will soon disappear. Remember in this case, as in others, to give hopeful assurances to that effect, as mothers are sometimes apt to be distressed over the appearances presented at birth.

Face presentation is the very reverse of that we have just been discussing, for the face instead of the breech presents, and in midwifery we call them facelings. It is a rare complication, hence an obstetric nurse will not have many opportunities of witnessing it, and for that reason we will enter fully into the matter.

Face presentations are not often perilous to the infant, under careful midwifery; but I think it prudent and advisable

for the medical attendant to inform the nurse or the friends of the state of things, viz., that the child lies face first, and that the labour will be protracted on that account—first, because the labour is difficult and prolonged; secondly, that the infant at birth presents unusual appearances, that might by the uninformed be attributed to mismanagement; and, thirdly, laid to the charge of the practitioner. Hence I find frankness in the beginning saves unpleasantness in the end. My nursing readers can well understand that the effects of continuous pressure upon the tender surfaces of the infant's face cannot be otherwise than injurious, and, in truth, poor baby presents a very distressful appearance at birth. The lips are enormously swollen and livid; the eyes closed and the lids distended, with an effusion of fluid from them; the whole of the face dusky in hue, and congested, especially the presenting cheek. These evidences of pressure need not occasion us any anxiety, for care will alleviate and time efface their effects.

When the infant is separated, there is no need to put the face downwards to drain out mucus from the trachea, as none gets in; the infant must be wrapped in his receiver, and laid on his back so as to arrest all pressure on the face. When washing the infant, wipe out the mouth as usual with a wet flannel; do not wet the face, but mop it all over very gently with a soft diaper towel. In bathing your little patient, do not pour the water over the front of the head as usual, but let it run over the back of the head and the shoulders instead. All the directions I have given in my *Manual of Obstetric Nursing*, Vol. I, Part 2, Chapter II., p. 159, with respect to the washing of the infant are to be most minutely observed in these instances. When taking the infant out of the bath, be careful when laying him across your knees not to put any pressure upon the face. When you turn him over on to his back, as usual, carefully wipe dry the top and fore part of the head, but do not wipe the face; repeat, if necessary, the dabbing with a soft napkin, and then dust the surfaces all over, eyes included, if closed, with your starch, or Vinolia powder (the latter is excellent). When the infant is dressed, place him on his back in the cot, with the back of his head resting on the top edge of the pillow; this will keep it steady, and prevent any slipping

down on to the face, which must be exposed to the air, and at the same time protected from it by a soft cambric handkerchief (or a piece of old book muslin that has been washed soft) for the first twenty-four hours.

Some newly-born babies, we know, amuse themselves by sucking their fists, or even scratching their faces. If your little patient shows any desire to indulge in these manipulations, we shall have, in his own interests, to temporarily restrain them, either by sewing up the ends of the gown sleeves, or tying the upper part of the arms gently back with a piece of soft ribbon. With care and attention, all baby's facial troubles will begin to subside from the hour of birth, and in a few days' time scarcely a trace of them will be visible. Food must be given from a spoon until the swelling of the lips subsides.

So much for favourable conditions, but we must remember that careless midwifery will greatly aggravate the inevitable results of the complication. Unnecessary or unwise examinations may so injure the tender surfaces of the face as to give rise to serious inflammation, or an eye may be destroyed from the same cause—the writer has known of both these disasters happening. Careless nursing also will greatly hinder a safe and speedy termination to the trouble.

Brow presentations, which are really partial face presentations, affect the appearance of the child at birth. The force of the pains falling upon the fore part of the head, the tumour of the scalp forms on one or other brow, and, as the labour is often protracted, the œdema is considerable. There is nothing to be done but careful handling of them, and keeping all pressure from the swellings, and they will soon subside.

CHAPTER II.

PREMATURE AND STILL-BIRTHS.

PREMATURE INFANTS—TREATMENT OF—HIGH MORTALITY OF—
TWIN INFANTS — DIFFERENCES IN — STILL-BIRTHS —
SUSPENDED ANIMATION—ARTIFICIAL RESPIRATION FOR—
HOW TO PERFORM IT—TREATMENT OF INFANT—PROLAPSE
OF THE UMBILICAL CORD — SUFFOCATION IN THE
MEMBRANES.

PREMATURE infants are those born before the completion of the full term of gestation—in midwifery we classify them as viable or non-viable. The former are likely to live; the latter are doomed to die, even if born alive.

Uterine age has a most important influence upon infantile life and health, and may even affect the *physical* development of the future life of the individual, though the intellectual powers do not appear to suffer in an equal degree from prematurity.

The full period of foetal life is forty weeks (two hundred and eighty days), and to my mind we shall better mark out its successive stages of development, and bring them more into accordance with that wonderful law of *periodicity* that governs the whole cycle of uterine phenomena—and more especially that supreme phase of it we call gestation—if we make them the basis of our calculation. Dividing, then, the two hundred and eighty days into forty equal portions of seven days each (weeks), and again into ten equal portions of twenty-eight days each, we find the full period of the life of the foetus is ten (lunar) months, and I advise mothers to reckon by them, and leave the calendar severely alone.

This wonderful form of existence upon which our lives depend is beset with perils from its inception to its end, and to my mind one of life's most sacred duties is the care of the *unborn*, and the mothers who bear them, for crass

ignorance, or criminal intent, *as well as* natural causes, may destroy both lives.

The most critical period of foetal life is during the earlier months of pregnancy, when the uterus being still in the pelvis, the embryo is more likely to be thrown off, and common experience and observation lead us to the conclusion that this disturbance—commonly called abortion—more often than not corresponds with, and appears to be consequent upon, the periodic recurrence of the menstrual period, which is masked rather than interrupted by pregnancy; and I advise pregnant women to bear this point in mind, and avoid all imprudent risks at those periods.

About mid-pregnancy an event of momentous importance to foetal life occurs—the rising of the uterus into the abdomen, which, according to my view, bears a fanciful resemblance to the launching of a goodly vessel from her stocks. The beautiful structure, complete in all its main parts, has yet to receive its finishing touches from the creative hand before it can become a thing of life and a joy to the mother's heart. One of the symptoms that mark this ascent of the uterus is an interruption to the maternal circulation caused by the sudden removal of the pressure of the gravid uterus upon the great pelvic blood vessels, leading to a sensation of faintness, or syncope, and sometimes to motions of the child, which produce a sensation called “quickenings,” hence made a basis of calculation, but which is very often fallacious, from being referred to foetal rather than maternal causes.

The latter part of pregnancy is marked by a rapid increase in the size and weight of the foetus, and fat is developed. *Pari passu* with these changes, the muscular substance of the uterus enlarges and strengthens, preparing itself, as it were, for the colossal task of parturition. The dangers that menace the life of the foetus are still formidable, referable principally to maternal influences, such as constitutional disease, blood infection, mental emotions, external causes, falls, blows, or sudden “jerks”; or its existence may be terminated prematurely; if *before* the completion of seven months of utero-gestation, it is called a *miscarriage*, the child cannot live; if the infant completes the period of eight months (lunar) of utero-gestation (commonly called

seven-months children) it is called *premature birth*, and, as respiration can then be supported, the child may live, and this fact marks the difference between viability and non-viability. In the latter case respiration may be established, but as it cannot be maintained the faint spark of life is doomed to extinction for the want of animal heat, which food alone cannot supply.

There is one point we must never lose sight of—that the prematurely born begin life at a great disadvantage in comparison with the full-born. They are two months short of the natural period of development, and we must bear this fact in mind during their baby life. It is a matter of common observation that our little patients do not begin to thrive until they have reached to their full age as it were—*i.e.*, *two months* after birth, and during this period extra care and thoughtfulness are required to cherish the frail little life entrusted to our humanity and skill. Premature children have but little heat-producing power, and the warmth and care needed in their bedding and clothing are very great. In these cases a good wet nurse is often highly desirable, because, in premature confinements, the milk secretion, though *temporarily* abundant, is not always *abiding*, and more often than not the milk flow does not suffice to nourish the infant, and bottle-feeding has to be resorted to.

The signs and conditions that mark prematurity in infants are matters of much interest in Obstetric Nursing. The first points that attract our attention are the great difference in size and *weight* between the premature and the full-time newly-born infant, the *latter* being especially noticeable, and is due to the fact that fat is not fully developed until the last two months of foetal life; and this leads to a very important *condition* peculiar to the prematurely born—there is *not* sufficient fat formed to maintain the animal heat or temperature of the body, for, though respiration can be supported, *artificial warmth* is absolutely necessary to maintain the temperature of the body, and all those methods of doing so that I pointed out to you in Vol. I, Chapter II, p. 180, are supremely requisite in the prematurely born. Not only must the cot be kept warm by artificial heat, but the greatest care must be taken to avoid *chills* during the bathing or changing of the infant. The bath only given *once* a day,

in the morning, for the first two months; and unless the weather be warm and summerly, the infant is better kept indoors for the same time. Change, warm, and ventilate the day and night rooms, as I have mentioned not long since.

As well as smallness, we notice that the head is larger in proportion to the size of the body than in normal births, and the slender neck appears scarcely able to sustain its weight; the greatest care is required in supporting and handling the head. There is but little, if any, hair on it.

The lower extremities are not so fully developed as regards length and size as full-term infants, and particularly have I noticed this deficiency in the long bones, and incline to the opinion that prematurity may affect *stature* in after life; in neither the upper nor lower extremities is fat developed to any extent. The skin has a dark red hue from the transparency of the cuticle, over which there may be *vernix* found—scanty about the dorsal region, but thick under the axillæ and along the groins, and over the genitals. It is more difficult to remove them under ordinary conditions, and from the excessive tenderness of the skin great care must be used in clearing it off. Strictly follow out the instructions I gave you in Vol. I., Chapter VI., p. 161, on this subject. The nails on the fingers and toes are very soft, and have an indented appearance, though I do not consider these signs altogether diagnostic, as even in small feebly-developed full-term infants the nails are not always perfect.

There is another diagnostic sign of much value, the position of the umbilical cord; at term it is in the *centre* of the abdomen; in prematurity lower down towards the pelvis. I have never observed any difference in the cord itself, only its position varies according to the uterine age of the infant.

I have dwelt upon the viable age of prematurity, eight months of lunar gestation (commonly called seven months' children), because in this case we have encouragement that as our baby can live he will live; though I must again emphasise that this will largely depend upon *thoughtful* care. But at a non-viable age, before the completion of seven months of lunar gestation, we have but little hope, for if the infants are live-born, they do not often live long, and we have only to tend them till they die; respiration cannot

be continued, nor can food be digested. A few drops of brandy and milk can sometimes be swallowed, but more often than not it is ejected.

To return to our duty, consider how we shall treat these untimely little patients. Should they be washed and bathed, or only washed? I incline to the latter plan, for the extreme tenderness of the cuticle—that has not even the vernix to protect it—and the feebleness of the circulation, render the double process too much for them. The head must always be washed; the back and buttocks, the upper and lower extremities, the *axillæ* and the *groin* can be sufficiently cleansed by lubrication, vaseline or cold cream being used for that purpose, and a *very soft napkin* to wipe the parts with. Should these infants be dressed? In my judgment, not. The navel must, of course, be dressed as usual, and the binder applied and a napkin put on, and the infant wrapped in cotton wool or wadding from head to foot—over this a flannel square made quite warm. These wraps must be put on loosely, so as in no wise to impede the freedom of the limbs; the infant must then be placed in the cot, the temperature of which must be raised to 98 degrees (blood heat), by artificial heat, hot-water tins or bottles constantly renewed. In full-term infants the head is the hottest part of the body, but in these extreme cases of prematurity the head is cold from the birth, and becomes colder and colder till life ceases; hence the head must be kept warm by a soft flannel cap. With respect to nourishment, of food in its ordinary sense but little is required, and the object we have in view in giving that little is to support combustion—*i.e.*, maintain the respiration; and I find *cream*, with the addition of a little white sugar, better than anything else I know of, half cream and half hot water, one teaspoonful of each given drop by drop at frequent intervals every hour. In past years fluids were given through a quill, better than a spoon; but I prefer the reversed long-tubed nipple shield or a teaspoon—it is very easy to shorten the india-rubber tubing—and the teat should be *soft and small*. Place this between the lips, and when the food reaches the mouth an act of suction may be induced, and some of it swallowed.

It is very unlikely that our poor little patient will live, do what we may; but to my mind the apparent hopelessness

of the issue should never lead to any or every measure that may tend to give us a chance of success, for there is a possibility that even these frail little beings may be preserved. Remember, in cases of extreme prematurity, the temperature of the body must be maintained by artificial heat. The navel cord is longer in separating than in full-term infants, and should not be interfered with for four or five days. The napkins may be required to be frequently changed, as there is frequently a good deal of meconium passed, and the buttocks washed, but no other part of the body until the cord comes off. There is a peculiar shrill cry, emitted at frequent intervals from the time of birth till death, due to imperfect lung expansion, apparently leading to painful respiration. Premature and still births are more important in midwifery than in midwifery nursing, but still nurses should understand something about them, in order to render necessary assistance.

Still-births.—The death of the foetus before birth may take place either in the uterus, or in the course of parturition. In the former case it is due to causes quite unconnected with delivery, as from syphilis, tubercle of the placenta, or mechanical injury leading to the putrefaction of the foetus, before the advent of labour. In the latter case some untoward accident of birth may occasion the death of a full-term healthy infant—within reach of life as it were—the most frequent cause being mal-position, requiring manual interference to complete the delivery of the infant and intelligent aid from the nurse is often a very important factor in the result. For instance, the accoucheur is delivering a breech; nothing will help him better than for nurse to know how to take the fundus, and make firm, equable, and downward pressure upon it, which will expedite the expulsion of the head, the crucial part of the delivery. Every obstetric nurse should receive this technical instruction; but we know that a vast number do *not*, and one might as well ask them to find the North Pole as define the *fundus*.

With respect to premature still-birth, there is so little difficulty attending delivery, from the extreme smallness of the foetus, that the matter need not be dwelt upon, a tedious dilatation being the usual result of the small, soft head. Moreover, the cervix is imperfectly opened, and, as the

patient is often a long time in labour, she requires careful nursing attendance the while. The strength should always be maintained by suitable fluid nourishment, such as hot milk or broth.

Twin infants are generally small, and, more often than not are premature. An interesting point in these cases is the varying sizes of the infants. One infant may be small and stillborn, the other live-born but small, and both full term; or one infant may be full term and another half term; and I have often noticed that the younger of the two—the smaller—is born first.

In typical cases, where both infants are at term, they are so identical in size and weight that, where the sexes are the same, we have to put a distinguishing mark upon the first-born, or we should never know one from the other. In such cases, and both infants living, nurse has double duty on her hands; and, as there is a deep-rooted tradition that when one cries the other invariably follows suit, things are lively for her.

We have touched upon premature births and still-births; but there is another and singular condition peculiar to the newly born—that is, neither life nor death. In midwifery we call it suspended animation, and measures for resuscitation will have to be promptly resorted to. In ordinary cases we can excite a respiratory act by reflex irritation; and a smart, light blow upon the buttock and shoulders of the infant at birth will bring it about. But there are times, and often times, when these simple measures will not suffice, and we must have recourse to artificial respiration. What is it? It may be briefly described as the introduction of air into the lungs, by the artificial imitation of the respiratory movements, *oxygen being once more absorbed by, and carbonic acid given off from, the venous blood reaching those organs.* I have italicised this last sentence, for we must remember there is an important difference between the condition of the foetal and adult lungs—the former have *never* been expanded, there is no carbonic acid to get out; we simply have to get air to them. Our first duty is to ascertain if the heart beats; the cessation of the foetal heart beats indicates fatal injury to the medulla, the nerve centre of respiration. If, then, this momentous throb can be made out, be it ever so

feebly, there is hope that our efforts may be crowned with success. We must first drain out all mucus from the trachea and nostrils, by raising the infant up and turning the face downwards, and well downwards, for a few seconds. We then turn him over, and wipe out the mouth with a soft napkin. The next point is, shall we sever the cord or not? I think better *not*, until the pulmonary circulation is established. Shall we ligature the cord? I think No! nor squeeze it until the blood current is diverted to the lungs.

We now lay baby on a pillow on the bed, the head hanging well down over one side of it, so as to keep the mouth open; taking the infant's hands in our own, we draw the arms up over the head and well back, keep them there for a few seconds, then draw the arms down over the thorax, make firm pressure with your hands over the chest walls in an *upward* direction, *suddenly* remove that pressure, and *instantly* raise the arms again to the top of the head—these manœuvres may be followed by a *feeble gasp*, the first inspiratory effort—you repeat the movements described, and they must be continued in a calm measured manner—with great gentleness and no “hurry”—and I have often found at this juncture the smelling salts (prepared in the way I told you of in Vol. I., Chapter II., p. 16) most serviceable, held at a little distance from the nostrils whilst the arms are *raised over the head*. Of course, we require assistance here, and a nurse should know how to help us. The next advance is the ever welcome “cry,” feeble at first like the gasps, but strengthening as we go on, and at last our efforts are crowned by success. We now sever the cord. What next? Our little patient is cold and weak. A cot blanket or large piece of flannel must be made hot, ready for our use. Placing the infant straight on the pillow, we now sever the cord, then remove it from the bed and bring it close to the fire; spread the blanket over the pillow, lay the infant down again, turning him towards his right side, feet towards the fire; wrap the blanket all over him, leaving the face only exposed to the air, being careful that the radiant heat from the fire does not fall on it. Some practitioners advise at this juncture rubbing the chest with brandy, or sal volatile. I do not myself think these manipulations are necessary, having established the pulmonary circulation by the means just

described. I think we can dispense with counter-irritants. The infant must be *left in absolute* repose for an hour or more before any attempt is made at washing or dressing, and from time to time he must be watched to see if there be any accumulation of mucus in the trachea, and if so remove it. If the surface of the skin keeps cold, a teaspoonful of milk and water, quite warm, and a few drops of brandy in it will be useful, repeated every ten minutes. I have dwelt somewhat fully upon the subject of artificial respiration because, in my judgment, obstetric nurses, especially these engaged for country or foreign cases (generally the pick of our ranks), should understand and be perfectly well able to resort to it in case of need.

An elementary knowledge of midwifery, and its *safe*, practical application in time of need, is a matter of great service to an obstetric nurse, and I will just point out *how far* and in *what way* it can be wisely made use of. And we here come to a point of much importance to my mind in the instruction of midwifery nurses: *How* and *where* can they ever gain the *experience* necessary to give them *self-reliance*—not *self-confidence*, to enable them to act alone when necessary? Not *in* the hospital, I emphatically assert, but *out* of it. Hence during residence, and at about the middle of their course, our students, under prudent restrictions and at safe distances, should be sent out to the homes of the patients, *first* to make the best of what they find around them (baby included perhaps) until the arrival of the midwife who has charge of the “outside” work. Half a dozen cases on these lines will be more useful in teaching a nurse self-reliance, and a little practical midwifery as well, than twenty cases in a hospital with a dozen people about them, and everything to their hand. Assuming, then, that you are in charge of a patient, and that everything indicates the rapid approach of delivery, you are *not* to delay sending for the doctor, *because* you can separate, but go on with your duties, and *in no wise interfere with the labour*—baby is born—in due time you separate. I have given you instructions how to do it, and how to treat the infant at birth, in Vol. I., Part II., Chapter I., p. 150, and need not repeat them. Defer attending to the infant until after the expulsion of the placenta, as the patient should be watched till then;

when that is over you can turn your attention to the baby, and leave the mother to rest. When the little patient is put into his cot, you put the mother to rights and bind her ; and all these matters can be completed pending the arrival of the attendant ; and these duties are to be done *in order*, *hurrying* nothing, neglecting nothing. Some nurses are in such haste to get everything over *before* the doctor comes they are apt to be neglectful of the *safety* of the mother ; *follow* the course of events, but do *not* hasten them. Other nurses, again, having had no training by *experience*, lose their heads in simple emergencies, and lead to pretty nearly everybody else in the house losing theirs, and spread dismay and unfounded fears around. Steer clear of these two extremes and you get the confidence of your employers, lay and medical.

PROLAPSE OF THE UMBILICAL CORD.

This accident frequently occurs at term and before the advent of labour, and it is more often than not brought under the observation of the nurse in the first instance ; hence it is as well that she should know something about it in order that she may be able to calm the fears of the patient, and prevent unwise delay in sending for the medical attendant.

Obstetric writers attribute the prolapse to pelvic defects, and practical midwifery confirms this opinion ; as regards the maternal safety, this slipping of the funis is a matter of little moment, but the life of the infant is most *seriously* endangered by it, and I must ask my nursing readers to give what I have to say to them their earnest attention.

The complication occurs under three different conditions : (1) Head presentations ; (2) Transverse positions ; (3) Footlings. The danger to infant life is greatest in the *first* and least in the *third* mentioned, but in all three instances the peril arises from cord compression, and in the vast majority of cases this is intensified by the delay which ensues in conjugate contraction. The protrusion of a *loop of cord* from the vagina marks the rupture of the foetal sac, and, singular to say, there is often an entire absence of labour pains, especially under the second and third conditions.

Assuming that the patient complains to you of this unusual occurrence, you at once get her to lie down on the bed, in order that you may see for yourself, and you find a long loop of cord depending from the vagina, and, as a rule, it is longer in head than other presentations.

What next must you observe? Whether or not the cord pulsates. If so, the child is living, and no time must be lost in sending for medical aid; if, on the contrary, it is pulseless and cold, the child is dead, and the case is not so urgent, but still the doctor must be summoned.

Replacement may be attempted in three ways: First, by the so-called postural treatment, *i.e.*, placing the patient on the bed, in the knee-elbow position, face downward; by these means the pelvis is raised up, and the cord descends back into the uterus by gravitation; but this measure can only succeed occasionally. Secondly, by manual replacement of the cord—a difficult manœuvre, and, as far as a limited experience goes, of a rare complication. I consider the aforesaid measures come out a great deal better in print than practice. Thirdly, replacement may be effected by attaching the blind end of a gum elastic male catheter to the cord by means of two strands of thread passed through it in the form of a loop and cut afterwards. Keep the stiletto in the catheter, cut off the bone end, pass the catheter well into the uterus right above the head, and leave it there. I have known this little plan to succeed, and the infant's life saved thereby,

In my judgment, these temporising measures for replacement are not to be relied upon; the child's best chance of safety lies in prompt delivery—forceps in head, version in transverse, and traction on one foot, in foot presentations, and in all these cases artificial respiration may be required.

There is another and singular cause of still-birth, due to an accident at birth, that in midwifery we call “suffocation in the membranes.” It happens thus: The head emerges before the escape of the waters, and brings down with it a portion of the amnion, the delicate secreting membrane of the foetal sac which completely envelops the face and head of the infant, and if not very promptly removed suffocation ensues. The head and face present a most unusual appearance, and when a nurse is in sole charge of the

patient, and this complication occurs, she must *as soon as* the head is born pass her finger under the chin and turn back the membrane from the mouth and nose, the rest can be removed when the body is expelled. If nurse loses her head in a case like this, baby loses its life. There must be no waiting for the doctor to come !

There used to be an odd superstition amongst mariners with respect to these membranes, which were called "cauls," to the effect that, if they had a child's caul on board, the ship would *never sink*, and skippers would give as much as five pounds for one. They used to buy them mostly of midwives, who used to wash the membrane clean and dry it on a cloth, and then spread it out over a sheet of writing paper. The sex of the infant and the date and hour of birth were also recorded, and were supposed to enact some occult influence over the "charm." The caul of a *seventh* son (in succession) was highly prized ! This old-world superstition is fast fading away, and our ships are sinking every day. Are we so *very* certain that the "caul" was all superstition, or that we are any more enlightened in transferring our belief to—patent pills ?

CHAPTER III.

INFANTILE AILMENTS.

CONVULSIONS — CAUSES OF — TREATMENT OF — ATALECTASIS
 PULMONUM CYANOSIS — ICTERUS — CORYZA — APHTHÆ —
 STROPHULUS — PEMPHIGUS — ECZEMA — HERPES — DAND-
 RUFF — DIARRHŒA — BRONCHITIS — ZYMOTIC DANGERS TO
 THE NEWLY-BORN — INFANT SUFFOCATION — CAUSES OF.

It is a sorrowful reflection that disease follows so closely upon the wake of birth, that the tender infant often has a struggle for existence on the very threshold of the house of life. The object of this chapter is to touch briefly upon those ailments of early infancy that fall within the range of Obstetric Nursing.

Convulsions—May be due : 1st, to lesions caused by parturition solely ; 2nd, to traumatic injuries during delivery ; 3rd, to congenital brain disease, such as hydrocephalus ; to trismus nascentium—"nine-day fits," so called from the fact of their occurring on the ninth day after birth : these seizures being tetanic in character, the locked jaw, the clenched hands, and muscular rigidity being some of the symptoms. This singular infantile disease has been attributed by some medical writers to extrinsic rather than intrinsic causes, such as blood-poisoning from foul atmospheric conditions and surroundings ; or bacterial infection of the navel wound. It is very prevalent in hot climates, and very fatal.

It has been observed that in the Arctic regions, where, for the greater part of the year, the inhabitants live in underground dwellings in which, from the want of ventilation, the atmosphere becomes at once overheated and impure, the mortality from trismus is appallingly high. Nearer home we know that the polluted atmosphere of the overcrowded tenements of the slums of great cities is intensely inimical to infantile life, and "fits" its most frequent ending.

The aggregation of parturient women in the large Continental maternity hospitals, and in our workhouse infirmaries, before the use of antiseptics was general, is unfavourable to infant life and health; an erysipelatous inflammation of the umbilical eschar, due to bacterial infection, being by no means infrequent, leading to convulsions from blood-poisoning, and terminating fatally.

All thoughtful workers in midwifery cannot fail from study, observation, and experience, to appreciate the immense hygienic advantage of "isolation" to lying-in women and the newly-born, and I use the word "isolation" in its widest sense, not merely the keeping of parturient patients separate, but *the removal from them*, as far as human means allow, of all possible sources of zymotic infection. So earnestly do I hold these views, that were I compelled to make a choice, I would decide for "isolation" *without* antiseptics for "aggregation," with.

To return to our subject; the convulsions of early infancy are at all times dangerous, though by no means always fatal, and medical aid will have to be sought. What is a convulsion? An affection of the respiratory nerve—or phrenic—leading to a temporary suspension of the respiratory muscular movements, whereby atmospheric air is excluded from the lungs and the egress of carbonic acid from them is prevented. Symptoms of suffocation come on, and a desperate convulsive struggle for breath ensues, and whatever the cause of the fits the phenomena are much the same. Let us remember that in infants the pulmonary circuit is short, the heart beats extremely rapid (150 per minute), the respiration proportionately frequent—in fact the respiratory system is in a state of intense activity, and the slightest check to the course of that ceaseless rushing current of life acts with deadly force upon the sensitive infant frame. Assuming that an infant is suddenly seized with a "fit," what will you do *first*? The more serious symptom is suffocation: attend to that at once, and endeavour to provoke an inspiratory act by the reflex irritation of the action of cold; remove all covering from the head, expose the face to the air, dip a sponge into cold water, *lightly* squeeze it, and then dash the water from it right into the infant's face; the shock of cold water leads to an inspiratory effort in the form of a gasp; the douching

may have to be repeated until a cry is evoked. You next step in to prepare a warm bath, as it is almost always ordered by the doctor, and it may be safely done if there is any delay in his arrival. How is this bath to be given? Putting an infant into the warm water is *not* giving him a bath in any medical sense of the word. In order to be effectual, the *whole of the body*, with the exception of the head, must be *completely immersed*, the temperature of the water should be raised to 98 degrees, and *kept to that* so long as the infant remains in the bath: for how long will a good deal depend upon medical direction, and I cannot give any hard and fast rule about it—not *less* than from fifteen to twenty minutes. If carefulness is required in giving the bath, still more necessary is it in taking the baby from it, for negligence in this matter will more often than not undo all the good of the bath. Before putting the infant into the water, put *two* Turkish towels to the fire, and, of course, all the clothes; place the bath near to the fire, and your chair close to the bath, as you will have to support baby on your left hand and arm all the time he is in it. Before taking him out, place a hot Turkish towel across your knees, and lift the infant on to it, his face downwards and his feet towards the fire, instantly place the other towel *all over* him—wipe your hands and then wipe the baby, dress as quickly as possible—wrap the infant in a small woollen shawl, and place him in his cot; the head must be kept cool, the rest of the body warm, and the cot warmed if the weather be cold. The hot bath acts as a sedative, and after the fatigue of the washing and dressing, and the natural languor that follows the “fits,” a prolonged slumber may be hoped for, the best of all nerve restorations. If sleep does not come on, food must be given from breast or bottle. Before leaving this subject, let me give a word of caution as to *medication* in these cases by nurses or mothers, uncertain at the best, for such tender lives: it is better left to medical hands, and our duty is *careful* nursing, and the following out of instructions. Constipation is a sequel of convulsions as well as a cause in infants of tender age, and judgment is needed to deal with it; hence the reckless administration of the popular purgatives, however simple in themselves, may do more harm than the “fits.” As a

topical remedy in rectal inertia, the glycerine enemas are safe and efficacious.

Indigestible food in the stomach of the infant, such as a clot of too dense cow's milk, or breast milk from a mother recently in a passion, are frequent causes of fits in infants. When brain disease is not an assignable cause, the stomach and intestines must be attended to. Ten grains of ipecacuanha in powder in a little wet moist sugar will act as an emetic; this will often empty the stomach of the results of too much or improper food. While the infant is vomiting, lay him on his belly, so that the matters brought up do not get into the larynx or trachea. When the stomach is emptied of its contents, ten grains of calcined magnesia in milk and water will serve as an antacid, and afterwards as an aperient by which the bowels are cleared of irritating matter. After these remedies the hot bath can be given.

Atalectasis pulmonum can hardly be called an ailment perhaps, but it is a singular condition peculiar to the newly-born, and terminating fatally within a few hours, or sometimes days, from birth—it is caused by imperfect lung expansion, hence the respiration is never completely established, the infant perishes from the want of animal heat. Hence from this cause, premature infants die, and at times full term, but *very* feeble infants, from sheer debility. There is nothing to be done in these cases; the usual symptoms are coldness of the body, especially about the head, a dark reddish hue of the skin, and a peculiar stiffness about the lower extremities; under ordinary circumstances our baby's limbs are soft, warm, and flexible, here they are cold, hard, and almost rigid. There is a shrill, plaintive, feeble cry emitted with every breath from birth until the end of life—quite diagnostic of the disease—very little food can be swallowed, the infant is too feeble to suck, and what little nourishment we administer must be given by a spoon. Apply warmth to maintain the temperature.

Cyanosis, so called from the blue colour of the skin, is an affection of the newly-born, due to the imperfect closure of the Eustachian valve that guards the foramen ovale, an aperture of communication between the right and left auricles of the foetal heart. During intra-uterine life, the colour of the skin is a *dusky purple*, as we know when an arm or foot

protrudes from the vagina if *the fœtus is living*, when death has taken place, the colour of the skin is a dead white. The reason of the cyanosed hue here is caused by the fact that the blood of the fœtus is oxygenated *outside* the body, in the placental structure, which lies midway between the maternal and foetal circulatory system. During intra-uterine life there is no *pulmonary circulation*; it is only at the time of birth that the blood is sent to the lungs to be arterialised. Now in the singular condition (cyanosis) we are discussing, the *whole* of the blood is *not* oxygenated, as a portion of the venous blood in the *right* auricle finds its way across the *left* auricle, and hence is not sent to the lungs for arterialisation. This imparts its purple hue to the skin. This rare complication is not invariably fatal, and it may be continued on to adult life, but, so far as my experience goes, the death of the infant, as a rule, speedily takes place. In Vol. 1, Chapter I, p. 151, I touched upon the foetal circulation, and I now refer my nursing readers to it, in order that they may fully understand the cause of this important infantile affection. There is nothing to be done in these cases: intense coldness of the skin is a symptom, as much as the lividity—death comes on from suffocation, the infant cannot breathe in enough air to the lungs to support life, *i.e.*, to decarbonise the impure venous blood sent to the right ventricle on its return circuit from the system.

Icterus, or jaundice, is another infantile disease that discolours the skin, and we have a “yellow” baby instead of a “blue” one. The clear saffron hue of the whole body is most remarkable, due to the bile from the liver passing into the blood instead of the intestine. It is difficult to say what is the exact cause of the disease. Some accoucheurs attribute the stoppage of the bile duct to pressure upon the liver at birth; some to heredity, or such constitutional liver derangement in the mother, and at other times there seems no accounting for it, infants being liable to have jaundice, whether the mothers be young or in middle life—whether they have had good or bad “times.” As far as my experience goes of congenital jaundice, I consider heredity the more frequent factor than any other, as there are instances in which all the infants of the same mother have been attacked. Possibly mere inertia on the part of the liver in taking up its

new work of digesting milk may be surmised as the cause. Many infants are sallow a few days after birth, but that hue passes off and the skin soon clears, and, besides, the sallowness is only on the face or neck; but in icterus the bile staining affects the whole body, and it is weeks before it passes off, and not infrequently the infant dies, especially if heroic medication in the way of mercurialising be resorted to—a common treatment in past times when poor “babies” had prodigious quantities of calomel put down their hapless little throats. The tendency of modern times is rather in the direction of a *patient* waiting for the liver to resume its functions, and a “masterly inaction in the matter of ‘dosing.’” The advantages of breast feeding are immense in these cases, and I should earnestly recommend a wet nurse being *at once* obtained, if the mother does not, or cannot, suckle. Barley water taken through the bottle *in change* for a breast feed will help to cleanse the liver and intestine, also the kidneys, all of which organs are affected by the disease. After the meconium has passed away, the paler colour of the evacuations peculiar to jaundice becomes perceptible; the urine becomes the colour of tea, old brandy, or even porter, and it is to these secretions our attention must be directed, as by them alone we can judge as to the progress of the disease, for until they return to their normal condition there is no abatement in it. When they do, slowly and gradually the tissues are cleared of their yellow stain by the re-absorption of the bile, and the little invalid gets well. The infant requires tender care during his illness; all chances of *chills* must be carefully avoided; the room in which the babe lives should be kept up to 70 degrees; the air *pure* by good ventilation; and, most blessed of all influences, *sunshine* should pervade the apartment—a room with a *northern* aspect should ever be avoided for a baby—and under wise and patient care the infant is very much more likely to live than die—at least such is my experience.

Coryza is a catarrhal affection of early infancy, attacking the mucous membrane lining the posterior nares, leading to an accumulation of mucus in the air passages, and obstruction to the natural breathing through the nostrils. It may be due to two causes—hereditary taint, or accident, the effects

of chill. The infant catches a cold in his head, and is about as miserable as his elders under similar circumstances. If the "snuffling" comes on at, or very shortly after, birth, it is most probably congenital or constitutional coryza, and the infant must be put under *medical treatment from the first*, as the disease is *obstinate*, protracted, and not infrequently terminates fatally.

In "accidental" coryza, as we will call it, from chill soon after birth, the attack soon passes off under careful management, but on *no account should it be neglected*, as the inflammation often extends to the trachea and bronchial tubes.

The characteristic symptom, "snuffling" or "stiffness" about the nose, is common to both forms of the disease, and occasions great discomfort to the infant when applied to the breast, as he cannot then breathe through the mouth, having the nipple in it, feelings of suffocation come, and the infant gets too little milk to satisfy its hunger, and constant crying is the consequence. In these cases we must use the *long-tubed* nipple shield, so as to keep the child's face away from the breast and open to the air; and even then we have to frequently remove the teat from his mouth. In bad cases food must be given regularly by a spoon. Our first care is to keep the room in which the infant is at an even temperature, 60°, day and night. As the breathing is oppressed, there must be *no weight of clothing* about the chest, nor must the free movements of the arms be in any way impeded—*never neglect* this point, for the little patient has to fight for his breath. The movements of the arms assist the respiratory efforts by keeping the chest walls free; I have seen a baby brought to the point of suffocation by being pinned down by wraps, *because*, having a cold, he must be kept warm—quite so! but that is not the way to do it.

In coryza, the nostrils are distended, and the skin of the face stretched over the bridge of the nose, which is very tender. The best lubricant to relieve the tension and tenderness is white vaseline, frequently applied. The inhalation of *warm moist* air also relieves "the stiffness" which is so distressing to the infant in coryza, and I have found the following little plan for administering it simple and efficacious. Take a small *flat-shaped* piece of sponge

—old being preferable to new—and thoroughly cleanse it, dip it into hot water, squeeze it dry, and, when sufficiently cooled down, place all over the nose and mouth of the infant, and keep it there until it requires re-dipping in the hot water; the sponge being soft, light, and porous, you can pack it round the nose as it were, and extemporise an inhaler. You can continue this application half an hour at a time, two or three times in the day, when the infant is awake. Be careful to wring the sponge out dry, otherwise baby's clothes will get wet, and the comfort of the manipulation be nullified. You must put a bib or handkerchief under the chin whilst bathing the nose; when that is over, wipe the face dry with a soft, *warm* napkin, and apply the white vaseline. The warmth and moisture loosens the mucus which flows from the nostrils to the great relief of the "snuffing"; sometimes the discharge is muco-purulent, which marks inflammation of the nasal mucus membrane, which occurs in severe or *neglected* cases of coryza. There is sometimes a "clogging" of the nostrils by dry pieces of mucus, which is irritating to the infant. The best thing to clear out the obstruction is the quill end of a *small* poultry feather, stripped a short distance up, washed, smeared with white vaseline, and gently passed up the nostrils. You may do this every morning until the baby gets well of his malady. In simple cases medication is hardly necessary, but where the affection is purely catarrhal—the result of a chill—I have seen the breathing relieved by minute doses of acetate of ammonia and sy. of tolu.

Aphthæ, or thrush, is one of the most frequent ailments of infancy. It affects the lips, tongue, and fauces, to the mucous membrane of which patches of milk curd adhere. Recent researches have discovered that upon these patches of milk curd a filiform description of fungus is developed, and finds a congenial *nidus* in the disordered secretions, which are the main feature of the disease, excess of acid and irritation of the mucous lining of the bowels always existing.

From this brief description it is evident that "thrush" is an "acquired" and not an hereditary disease, though it may be intensely aggravated by constitutional taint. The disease is not often serious, and passes off in eight or ten

days from its first appearance. As aphthæ is an "acquired" disease, then our first thought will naturally be—How can we forestall or prevent this very undesirable "acquisition" for our little patient?

The most frequent causes of "thrush" are improper food, impure air, and negligence in the *care of the mouth* when the disease first shows itself. Let us remember that milk is the food of the infant, whether from breast or bottle, from birth; that some of the "curd" therefrom naturally accumulates on the tongue and lips; that in the ordinary course of things these milk particles undergo decomposition, setting up a local acrid irritation, and, if we get an *impure* atmosphere, as well as a *foul* mouth, our poor baby is a victim to thrush, and, as the disorder spreads downwards, the throat, stomach, and bowels become affected in turn.

The care of the mouth (like the eyes) begins *at birth*, when all mucus should be drained from it, and the mouth carefully wiped out before separating; and, when the infant is washed, this cleansing must be repeated, and the mouth wiped out with a piece of *soft* flannel and clean water, *without* soap, which should never be used for the infant's mouth, and every morning, when the infant is bathed, the mouth must be washed, and with great gentleness, for the baby's mouth and lips are very sensitive.

So much for "prevention." Let us now say a few words about the treatment when we have to confront "thrush." There are two indications of the disease—first, the familiar white, mildew-like patches that appear on the surface of the tongue and lips, sometimes distinct, sometimes confluent; second, a dark purplish hue of the mucous membrane lining those surfaces, and I have generally found the darker the hue the more serious the attack of "thrush." The first thing to be done is to correct the acid state of the bowels by an alkali, such as calcined magnesia. Then we treat the abraded mouth with honey and borax, or with chlorate of potash—the latter, to my mind, preferable. The following simple formula is generally satisfactory: Chlorate of potash, six grains; syrup of roses, 2 drachms; distilled water to 3 ounces; dose, one teaspoonful three times a day until the disease abates, which is usually in eight or ten days.

If magnesia be given, the dose must not exceed 5 grains in a teaspoonful of aniseed water. As well as an acid, we sometimes get a relaxed condition of the bowels, with feverishness, hot mouth, hot palms, fretfulness. Here 5-grain doses of chalk mixture powder, after each loose action of the bowels, is serviceable, following up the antacid by mild doses of castor oil, which may be combined with that old and favourite preparation, syrup of violets, half a teaspoonful of each given occasionally whilst the attack lasts, to clear out the intestinal tract, "thrush" being one of those infantile ailments where mild purgation is desirable. To my mind, poor baby is in a pitiable plight during an attack of "thrush"—the coated tender tongue and lips, the hot mouth, the intestinal pain and discomfort, the misery in taking his food, make quite an invalid of him. Good nursing is the only remedy. If we can *prevent* it, how much better than treatment will it be! But if not, no time should be lost, no pains spared to get our little patient well. I rather dwell upon this point, because there is often a tendency amongst nurses and mothers to treat the disease lightly and in a haphazard kind of way; hence it extends unchecked, and, in numbers of instances, the infant succumbs to it.

As well as medication, topical measures must be resorted to, or the treatment of the disease will not be complete, and we always begin with them, and here again alkalies are resorted to, the most usual being chlorate of potash or borax, valuable from its antiseptic qualities, and we will discuss this first. There are many ways of using and combining borax, and a great deal goes to how you do this if the applications are to be efficacious. To begin with, none but *purified* borax that you buy at the chemist's should be used; not that sold by grocers in packets for cleansing purposes, commonly called Californian borax. The purified borax may be used dry, in the powder form, and combined with ten times as much caster sugar, say one part to nine. A small portion of this powder can be put into a piece of clean writing paper, about the size of an ordinary powder paper, and scattered over the surface of the tongue, mouth, and lips, and left there to dissolve. If the borax be used too strong or too freely I think it rather severe;

it generally lands us in a fit of crying from the patient—is it a protest against it? The powdering should only be done night and morning, or the borax and sugar can be mixed together, and dissolved in half-a-pint of *boiling water*, to be used as a lotion when cold—this is an excellent prophylactic remedy, and the mouth can be rinsed out with it in the morning, when the infant is bathed, to be used thus:—Pour a small portion of the lotion into a saucer, saturate in it a small piece of clean *soft* rag, from an old cambric handkerchief, for instance, place it over the top of your forefinger, and *very* gently wipe out the mouth with it, and throw the rag away behind the fire—an occasional application of this kind will cleanse the mouth of milk curd, thrush or no thrush. And here I must remind you that a *white* or milk tongue is *not* aphtha, as some nurses hastily conclude, and often take very unnecessary and undesirable measures accordingly. Each aphthous spot is a soft ulcer or abrasion of the mucous membrane, and all applications need to be most tenderly applied. To attempt to “rub off” these excoriated patches is mere brutality. There is no remedy more resorted to for thrush than the Mel Boracs of the chemist. But then how is this useful mixture applied? Something in this wise—the end of the bare forefinger, *not* always immaculate in the way of cleanliness, is plunged into the chip box containing the borax and honey, and the tongue and mouth *vigorously rubbed* all over with it; and if supplies run short the finger is withdrawn from the mouth, again plunged into the box, to be followed by further friction. And these drastic proceedings are frequently unnecessary, the so-called “thrush” being only a “milk” or white tongue, only requiring the mouth to be washed out daily. The way to use honey and borax is to smear a very little over a clean finger and just allow the child to suck the finger, so as to apply it to the sore membrane, thrice a day.

The best preparation of borax, to my mind, for thrush is the Glycerine of Borax, B.P., one fluid drachm to 6 ounces of best French rose-water, shaken well together. It is a cooling and efficacious lotion, and I prefer it applied with a camel-hair brush, thus:—Put a teaspoonful of the lotion into a cup, dip the brush into it, and paint over the upper

and under side and the edges of the tongue, the lips, inside and out, night and morning, and, if necessary, midday—the best moment to seize for these manipulations is when our baby thinks proper to indulge in “cries,” for reasons best known to himself, but perfectly inscrutable to those in charge, as the mouth is then well open. If we attempt to do this—at other times, however gently, our little friend simply amuses himself by sucking the brush and swallowing the lotion—no great harm, perhaps, but not *quite* what we want. Do *not* wipe the mouth out, let the lotion soak in—the notion of “rubbing” off the aphtha is fallacious, and only makes tender surfaces tenderer. Under the influence of proper applications they will separate in a few days, leaving a *healing* surface below, and the mouth soon gets well.

There is another important matter in cases of “thrush”—the care of the nipple in breast-fed infants—and it is a saying amongst mothers and nurses that a “thrushy” mouth makes a “thrushy” or inflamed nipple, and *vice versa*, be this as it may, both mouth and nipple require attention.

The lotion we use for the infant must be used for the nipple, or dust the nipple with Vinolia powder put on *before* the infant is applied to the breast; when he is removed, wipe the nipple dry, so that *no particles of milk curd* remain on it, and again paint with the lotion; if the nipple is very tender, a shield must, of course, be used for suckling; but, in my judgment (taking due precautions of course), I consider it better to keep the infant *to* the nipple, as the act of sucking certainly has a beneficial effect upon the infant’s mouth by promoting the cleansing of it from the aphthæ.

White vaseline can be used for the nipple before the infant is applied, if preferred, but I recommend the glycerine and borax as the better, so long as the infant’s mouth is “thrushy.”

Another distressing result of “thrush” is excoriation and tenderness of the nates (especially in the cleft) and the genitals, brought about by the acid character of the secretions, and this inflamed condition is commonly spoken of as “the thrush going through” the infant, and, to judge by external appearance, the passage must be a very painful one for the little victim.

Great care must be exercised in dealing with this develop-

ment of the trouble (1st) by frequently changing the napkins; (2nd) by topical applications. The parts should be washed clean *every* time the infant is changed, with warm soap and water, with a piece of *soft* sponge kept for the purpose, and dried with a soft napkin, and then starch powdered, or, better perhaps, for male infants, dressed with the pulv. oleo zinci co. I told you about recently—*plentiful* lubrication with vaseline after the surfaces have been *perfectly* dried is good, as the vaseline repels the urine from the skin, and it should be done every time the napkins are changed. Still, I recommend the zinc application to be used twice a day, and *after* the vaseline is applied until the parts heal. Unless care is taken in this matter, the infant gets into a deplorable condition about the buttocks and thighs from excoriation, and medication is absolutely necessary, as well as measures to deal with it. Dusting with Vinolia powder may be tried.

With respect to the topical use of chlorate of potash, it is used dry in powder form, or dissolved to form a lotion; in the former case the salt is scattered over the tongue and left there, a portion being swallowed by the infant; this is an effectual remedy, but should not be given without medical sanction; great care must be taken as to the quantity applied, not more than one grain, and that four times a day; and I should advise a nurse not to give it on her own responsibility. The borax treatment is generally sufficient, and always harmless, and, having antiseptic properties, it is the more desirable. Other antiseptic substances, such as Condyl's fluid or creolin, for washes, for instance, are recommended by some medical men, and, as a nurse, you will have to carry out your instructions. In what I have just told you about "thrush," I have simply, as on *all* other occasions, given you the results of my own experience as to the simple and practical treatment of the disease.

There is a malignant form of "thrush," sometimes seen in infants of weak constitution, exposed to unhealthy influences, or the victims of crass ignorance and neglect, in which the aphthous specks become black, and ulcerations form on their site, diarrhoea increases, the belly becomes tender, the infant is drowsy or may be convulsed. Chlorate of

potash is given internally. Continued medical care is imperative, as the case often terminates fatally.

Before leaving the subject of "thrush," I must earnestly impress upon the minds of mothers and nurses that the most frequent and fertile source of the disease is *improper feeding*—emphatically, the giving of *solid* food in any form whatever, such as bread, biscuits, cakes, rusks, arrowroot, and *all* farinaceous substances, to young infants—or want of cleanliness. The evil is largely preventable, and, as far as my observation goes, when it exists is the result of ignorance and mismanagement. Let every nurse and mother resolve that *their* baby, as far as human care can go, shall *not* have "thrush;" "prevention" being better than a thousand "cures."

Strophulus, or red-gum, a papular affection of the skin, is a common infantile ailment, and as it occurs in breast-fed infants, and within a short period from birth, it would almost seem that the eruption was due to maternal causes acting through the milk; it is not so distinctly traceable to errors of feeding as "thrush," nor does it to anything like the same extent distress the infant, and I have never heard of an infant dying of "red-gum." The rash generally shows itself first in small scarlet patches about the face, neck, and arms, in a few days it may extend to the shoulders, back, buttocks, and thighs, and the distinctly papular character of the eruptions become apparent in clusters of little hard papules rough to the touch, but apparently causing no pain when rubbed over with the hand as in bathing the infant.

There is acidity of the stomach during the eruption, and, to my judgment, lime water, a teaspoonful three times a day in warm milk and water, is the simplest remedy. Magnesia is sometimes given, but it must not be repeated, as lime water is. The eruption is thickest and reddest about the buttocks, but it is *not* desirable to adopt *repressive measures*. Keep the parts perfectly clean, and dry the skin with Vinolia powder (no preparations of zinc are required here), and plentifully soothe the skin with vaseline.

There is a point with respect to red-gum that, as far as my experience goes, is one to bear in mind: chills to the skin, and in this case they apply to the mother as well as the

infant. When we consider the immense importance of the cutaneous transpiration in lying-in women, and the peculiar blood state existing at that time, I think we may infer that any check to perspiration from "chill" might sensibly affect the milk secretion, and, through that, the infant, though the mother would not suffer it. I have but recently pointed out to you how carefully the infant should be guarded from "chills," as infallibly followed by mischief as a physical blow would be. Carelessness in bathing, ignorance in clothing the infant, especially the ever objectionable robe, are frequent causes of "rashes" of a more or less unaccountable (?) character.

Pemphigus is another infantile skin affection, marked by the presence of a number of little yellow blisters or bullæ in various parts of the body—notably the creases of the neck, arms, thighs—and also the head. They do not appear to cause the infant much distress, and the "rash" passes off in eight or ten days. The great point is to leave these little vesicles *alone*; dust them with Vinolia powder, and when they break the skin will heal rapidly. It is unnecessary and unwise to *prick* them, as you are apt to make "sores" of them.

There are times, however, when this eruption becomes serious from the number and size of the bullæ, and the feverish symptoms that accompany them. The infant must be placed under medical care. It is a consideration of this unfavourable development that leads me to advise the simplest measures to begin with, and the avoidance of *all* medication.

Eczema is a vesicular eruption of the skin, and in its infantile form generally attacks the scalp, causing the familiar scald-head of infants, and if this were all I had to tell you on the subject, I should scarcely have mentioned it; but there are certain interesting points about eczema in infants that we cannot well overlook in practical midwifery nursing, and for that reason we will enter into the matter.

The first point to bear in mind is that eczema, unlike the skin diseases we have so recently discussed, is a *contracted* rather than a constitutional disease, and hence the healthiest and best cared for infant may suffer from it if exposed to its

influence. The remarks I am about to make are perhaps more applicable to practice amongst the working and lower middle classes, where the children are more crowded together, and under conditions the reverse of salubrious, than to the better-off portion of the community, and hence may be more serviceable to my sister workers in midwifery than to midwifery nurses, though I trust they will not be without profit to both.

What is eczema? and how do we recognise it in its incipient stages?—a matter of much practical importance if we are to treat the disease with a fair prospect of success. The course of the eruption is something on these lines—we first notice a little yellow pustule, surrounded by a small but fiery nimbus that itches and burns like a miniature volcano; in a short time the vesicle ripens and bursts, discharging an acrid fluid, we may compare to lava, that scalds and excoriates the surrounding tissues, forming an irritating and disfiguring “scab.” When the vesicles are so numerous as to become confluent with the characteristic “tettering,” the surgeons call it “impetigo.” In infants and young children, the disease most frequently attacks the corners of the mouth, the chin, nostrils, ears, and sometimes the head.

Now, how does all this affect our baby? In this wise: An infant “catches” eczema from some member of the family, generally the “*ex*-baby,” who is more with the mother and the *new* baby than the other children; and the channel of infection is the common, but (in this instance) by no means commendable, practice of kissing, and we all know how reckless our working classes are in this matter. As far as my experience goes, I have never seen eczema in a baby unless there was eczema in the house, and, as a consequence, the baby suffers from it; hence it long ago occurred to me that the best way to protect my little patient was to attack the disease where I found it, eczema being one of the things we can *cure* if we take it in time. Suppose then that, in visiting our patient, we find the “*ex*-baby” suffering from a sore mouth and chin showing the “tettering,” characteristic of the disease, and so distressing to maternal eyes. Carefully examining the little face, we detect here and there those fateful pustules I have just described to you—the volcanoes

we intend to render extinct, and to that end avail ourselves of the resources of modern science.

It has long been known that carbolic acid has a specific effect in eczema, and we may employ it in three different media—dissolved in oil or glycerine, or prepared with the finest white vaseline. I first used the glycerine carbolic acid, B.P., as I had no other preparation at hand, and in this wise: I just moistened the tip of a feather in the lotion and drew it *once* over each spot I could find—this application, light as it was, occasioned a little temporary pain. The next day I repeated the treatment, on the third the places were “dying down,” the vesicles were destroyed, and their power of mischief gone—so much for the vesicles. With respect to the “tettors,” we shall have to do more than paint over and *round* the edges of the scab with the lotion, as we want to soften and clean off that disfiguring mark. And for this purpose I consider glycerine our best solvent. A piece of soft rag or lint must be soaked in glycerine and half water and applied to the surfaces, and if the disease attacks the chin, face, or ears, kept on with a triangular bandage; the glycerine must be applied night and morning. I sometimes use a camel-hair brush to rub it into the scabs as it were, as well as lint or rags; in a few days the skin is cleared of them, and a dressing or two of white vaseline completes the healing process. And here I must remind my nursing readers that soap (of any sort) and water must *not* be used to clean off the “tetter;” nor is water suitable to eczema at any stage of the eruption. I have witnessed much misery thoughtlessly inflicted upon little ones (and I must emphasise that my remarks about eczema only apply to infants considerably under two years of age, of whom we see so many, and our *new* patient, “our” two babies, in fact) from an idea that as the disease is *due* (?) to want of cleanliness (it is undoubtedly aggravated by it) there is nothing like “lather” to deal with it, and, in spite of bleedings and infantine tears, the “treatment” is often persisted in. There is yet another and more deplorable fallacy prevalent amongst mothers, that the disease can only be got out of the blood by remorseless “drenching” to clear it out, and reckless and ignorant medication with such drastic remedies (?) as jalap, senna, flower of sulphur, *plus* treacle, and tartar emetic being

popular favourites; and there is one point about *all* these remedies I have ever observed, that, although they have a most disastrous effect upon the little sufferers, they have *none at all* upon the eczema—*that* goes on to the 'orsepital!

I have noticed in early infancy the eruption most often appears on the hands, and we notice an angry-looking pimple on one of the fingers, also about the face, possibly from the fact that infants are continually putting their hands to it, that whenever the pustule may show itself, treat it as described. In severe forms of this disease the scalp is attacked, and medical aid will be required for some time, as a disease of similar appearance is of infectious origin—the "scald head" familiar to hospital nurses.

In slight cases a little simple medication may be useful, and I find the following cooling to the stomach if there be acidity—one drachm light carbonate of magnesia, one drachm of manna dissolved in a tablespoonful of *hot* water, aq. anethi to two ounces; throw in the powder after you have mixed the manna in the water, and let it settle down; shake up when required, and give baby one teaspoonful, night and morning, so long as is necessary; in elder infants, from twelve to fourteen months old, *diet* is far more important than medicine; milk, farinaceous foods, and cooling drinks, such as thin barley or rice water, flavoured with fruit syrups, or even well-made toast and water, allays the thirst that sometimes accompanies the attack of eczema, and I must point out how important *drink* is to infants, who are thirsty little souls in health and disease.

Herpes is another vesicular disease of the skin that sometimes occurs in infants, usually attacking the buttocks and genitals, and, as the *cause* of the mischief is nearly always gross negligence, I write with a somewhat wrathful pen on the subject. I have pointed out to my nursing readers how to change, arrange, and manage the infant's napkins, a matter of great nursing importance as regards the health and comfort of an infant; but there is one point to which I must again revert, as it bears upon what we are now discussing. What is herpes? It may be briefly described as clusters of little itchy vesicles, that tetter and give a rough aspect to the surface of the skin affected by the disease, its

familiar form being the intolerably sore herpetic lip that accompanies a common cold.

Now why should an infant have herpes at all? I have never seen a herpetic lip in a baby from a "cold," though chills often cause it; hence that can hardly be the cause of the evil. It generally comes from three most reprehensible nursing practices:—1st, not changing the napkins sufficiently often; 2nd, applying napkins that have been taken off wet, and dried but not washed; 3rd, the use of washing powders for the napkins and *not* having the powder well rinsed out in clean water. As the first two are in a nurse's hands, we will confine our remarks to them. Now why do these saturated napkins scald and excoriate the genitals? From the solid matters *retained* in them: the water is dried off in the form of vapour; those remain and act as an irritant to the tender skin of the infant, to which we may add the scalding from the heat of the urine, and hence we get inflammatory trouble of the buttocks, showing itself in patches of little white vesicles, and after a while they break, and we have open sores as well, and the state of the parts is most pitiable, and, I may add, shameful to nurses or mothers. The evil generally occurs at the latter part of your attendance, from three to four weeks after birth, and is more due to *night* neglect than day, and this leads to *col* management, which I have dwelt upon before, but will touch upon in reference to the disease we are considering. Now we all know that the bedding is protected by waterproof sheeting—*good* for *that*, but *not* for our baby: for, unless great care and cleanliness is exercised, it adds to the miseries of our little patient. On the top of the waterproof should be a pad or draw-sheet of soft old pieces of blanket, folded many times thick. As with the napkins, so with these pads—they should be washed in cold water, and dried, if possible in the open air, every day. A change of blanket pieces should always be provided, so that they are used alternate nights, and are always *clean* and *dry*. Now I must ask my nursing readers to picture to themselves the results an ignorance of, or indifference to, these simple and sanitary measures. For instance, a *dried* but really foul napkin is put on the babe at night, the *dried*, but *never* cleansed, pieces of blanket are put under him, and when, in time, become wetted, the

fermenting urine becomes ammoniacal and scalds and irritates the skin; and, if the napkins are kept on too long, we get an eruption manufactured!

Some of my readers may think that such gross mismanagement *cannot* be—that I am dwelling too tediously on the subject; but a wide experience has shown me that such things *are*, and in the interest of my little patients I have ever lifted up my voice and pen against them. The miseries of the disease fall, perhaps, with more severity upon male than female infants, but it is hard for both.

The nates and genitals, excoriated by the urine, present a fiery-red appearance, with here and there little white vesicles making an already distressing condition worse. Now what shall we do for our little patient, whose pitiful cries attest his sufferings? Our first step, obviously, is to remove the *cause* of the trouble—the wet napkin and the draw-sheets. And very *soft old* napkins must be used whilst the surfaces are tender. I do not recommend the napkinettes made by the absorbent pad makers; they are too *hot*, and, when they become soaked, they retain the urine, and add to the scalding misery. Observe the instructions I have given with respect to the arranging of the napkins—doubly necessary here. The buttocks must be washed *every* time the infant is changed, with *warm* water—*soft*, if possible—and, if this is not obtainable, soften the water in this wise: Take a *small* packet of Californian borax, and dissolve it in *one quart* of *boiling* water, and, stirring frequently, let it stand till cold. Put a tablespoonful of this solution to the water you use when changing the napkins, soap (I prefer the *best* white curd soap) a soft piece of sponge, and *lightly* relieve the parts. Wring the soap out of the sponge, and then sponge *without* soap, and wipe the skin dry with a very soft diaper towel; then powder with the pulv. boracic acid, or Vinolia powder to be put into a muslin bag and dusted over the parts. Do not use an ordinary powder puff, as it is important that the powder should be applied in a state of very fine division to be thoroughly effectual. If this treatment is persevered in, the skin will soon heal, and in a week's time you can use vaseline to complete the curative process, and substitute starch powder for the zinc preparation. In very tender cases I use *Vaseline* from the first, and

I have found the lubricant to be a protective against excoriation of the skin. As the infantine trouble I have just been describing does not usually commence until three weeks after birth, a careful nurse can, by a little common-sense management, minimise the napkin-wetting, and this should always be attended to.

Dandriff is another skin affection of early infancy, and as it attacks the scalp, and generally selects for its site the fore-part of the head, over the region of the anterior fontanelle, it becomes unpleasantly conspicuous, and as, like "impetigo," it is popularly supposed to convey an imputation of want of cleanliness, it occasions much distress to the maternal mind, although, as a rule, it is not a matter of serious consequence to the infant.

What is dandriff? Medical writers describe it as a furfuraeous condition of the skin of the head, a species of pityriasis. But in *pity* to my nursing readers I will content myself with homely terms and treat this infantile trouble as scurf, showing itself in small, irregular brown patches of small thin scales, that never collect into crusts, and are unattended by inflammation.

Pityriasis is also a teething affection of infancy, and you may see the whole scalp covered with rough, "branny" looking scales—and, upon the principle, I presume, of *similia similibus curantur*, bran washes are held in popular esteem as a remedy for the disease. The form of the disease we are about to consider is of a much milder character, showing itself in brown patches of irregular size on various parts of the head, affecting infants from four weeks old and upwards.

Now how shall we clean these patches off? Ordinary soap and water are not efficacious here, and for that reason other things are substituted for them by mothers and nurses, including amongst others *carbolic* soap, bran washes, and burnt butter. This last has long been considered a sovereign salve for the malady, prepared something in this wise: A piece of butter is put into a tin dish and placed in the oven, and left there to boil and brown—the *blacker* the better—taken out to get cold, and used *ad lib.* As far as my observation goes, the effect of these misdirected efforts is decidedly depressing, and if injudiciously persevered in are

apt, to my knowledge, to set up an irritation almost amounting to inflammation of the tender skin of the head, due to the fact that these remedies (?) are applied with an unnecessary and injurious amount of friction—they are *always* vigorously “rubbed” in—and for that reason, on the whole, we had better decline them.

There is a safe and simple detergent to clear off the eruption that I have for long used in my practice—that, unlike the “heroic” measures I have just described to you, requires a minimum of friction and leads to a maximum of results, viz., effacement of the patches—and we find it in the glycerine of borax B.P. applied in this wise: Take a good-sized camel-hair brush and paint over all the patches freely with the lotion; let it soak in well, say for half an hour, and then with a piece of soft old flannel lightly wipe it off. A few applications will effectually clean off all the scurfy patches.

Infantile diarrhœa is a frequent and oftentimes fatal disease of early infancy, and numbers of infants are carried off by it within a month of their existence, hence it becomes a matter of interest in Obstetric Nursing to learn why lives so tender should be jeopardised by a disease so dire, and the first thought that naturally arises to our minds is, why should infants have diarrhœa at all? They do not bring it into the world with them—“a funeral dower of present woes and past”—like some other diseases. If then it is not due to hereditary causes, to what cause is it due? Briefly, then, we may say the disease is due: 1st. To causes we can neither foresee nor prevent. 2nd. To causes we *can* foresee and hence largely prevent, and these again are modified and influenced by two widely different infantine conditions, viz., breast feeding and hand feeding. What is diarrhœa? Our text-books describe it as a relaxed condition of the bowels leading to frequent, copious, and loose defæcations, and this abnormal state may be brought about by imprudent or impure food, or polluted water, and rendered increasingly critical by a high atmospheric temperature.

There is one point about infantile diarrhœa to my mind of much interest. It may be brought about by quite different causes though leading to similar results—that is, to *extrinsic* influences, as well as those *intrinsic* conditions I

have just touched upon. Medical writers describe the former of these as *nervous* diarrhœa, and one of the most potent factors in the production of this phase of the disease is due to maternal nerve disturbances or emotion, and more especially to that development of it we call fear, and which we all know may lead to a fatal termination of the attack. Another external cause is the dangerous influence of *chills* to the skin, never more so than when from heat, or a weakened system, the body is bathed in profuse sweats.

We will consider, first, diarrhœa in breast-fed infants. In my Manual of Obstetric Nursing, chap. 4, p. 213, I have pointed out to you how absolutely perfect, under normal and natural conditions, breast-milk is as food for the infant, with what Divine wisdom that tender life is nourished and guarded from all those *external* influences we have just enumerated, and yet we know from experience that breast-fed infants suffer from diarrhœa and die of it, hence we cannot but consider that the disease is due to maternal influences affecting the milk, and I will mention three channels of transmission by which the disease may be conveyed to the infantile system:—1st. Imprudences of diet on the part of the mother; 2nd. Chills; 3rd. Emotions. The first and second may be considered preventible; the third, and by far the most important factor in the train of causation, we can neither foresee nor prevent. Now, it is the effect of emotions upon the mammary secretion that gives to the diarrhœa of breast-fed infants a special and instructive interest, for, as a matter of experience, we know that emotion does affect the mammary secretion, and through that the infant, sometimes with fatal, *at all times* injurious force.

When a nursing mother is under the influence of powerful and *dépressing* emotions, the infant should be temporarily taken from the breast, the *milk drawn off*, and no further attempts at suckling made until the mother has calmed down, and partaken of nourishing food. For the want of this wise precaution an infant's life may be sacrificed. Apart from these serious possibilities, everyone engaged in practical midwifery or midwifery nursing must have observed how much *minor* causes affect the breast-milk, and hence the infant, injuriously; maternal rage or anxiety will often

check the secretion of milk ; the flow is scanty and deteriorated, and it will give rise to "griping" pains in the infant. Now it is the influence of the emotions over the mammary secretion that lends a peril to breast feeding—otherwise the most perfect form of alimentation for the infant—and in my judgment it is one that should ever be borne in mind by *mothers* as well as those who tend them.

Reverting to the two other cases I mentioned, as affecting the milk secretion and thence the infant. First, imprudences of diet. We will touch but lightly on them, as in my Manual of Obstetric Nursing, chap. 4, p. 230, I have dwelt very minutely upon diet for lying-in women, and refer you to those papers, and will merely remark *en passant* that *drinks* may be at fault as well as *food*, and there is one beverage for our patients that, although popular, I can in no wise recommend—bottled stout (mostly Guinness') it is acid and affects the kidneys, it is frothy and distends the stomach and bowels with gas, it also is heavy of digestion, and makes the milk *poor*. How many babies has the writer known to suffer from this murky compound being substituted for those bland nourishing and delicate fluids that common sense alone would indicate as indispensable to milk formation. Some mothers will take half-a-dozen bottles of stout a day, under an impression of gaining strength! and then I am told the milk does not satisfy the baby! and feeding comes in "a vicious circle" truly. My observations, of course, only apply to the puerperal month. Amongst viands during this same period, *shell fish* (unless the *best* native oysters) should be avoided. Visiting a young patient not long since, I found her suffering from an eruption of the skin affecting the face, neck, and arms, coming out in red blotches, and having a sore mouth. Inquiring as to the reason of this unexpected development, I found out she had been eating mussels for her supper, and they disagreed with her, *idem* infant, *he* had some red "blotches" on his face and arms next day. Undoubtedly there was a bad mussel amongst the rest, but on the whole better avoid mussels, and also every form of *tinned* fish whilst lying-in. With respect to chills to the mother, and giving rise to slight feverish symptoms, we know that they will often check the flow and affect the milk, and as a matter

of course the baby, and we get relaxed bowels and "gripes." I have given you full instructions *how* to avoid "chills" for your patients, in former papers in the first division of my subject, and refer you to them. So much for the causes of milk disturbance and their effect upon the infant, diarrhœa being a common manifestation of the same.

We will now consider diarrhœa in hand-fed infants, more under nursing control, perhaps, than in the former case; we have no perturbing maternal emotions to fear, it is true, but we are exposed to dangers from commercial dishonesty, tending to deteriorate the milk by adulteration, or to infect it by dirty dairy arrangements. Except in country places, and not *always* there, we cannot absolutely depend upon the *purity* of the milk supplied us—and there may be "death in the (milk) pot," viz., diarrhœa. I have dwelt so minutely upon milk management in hand feeding in vol. I of my Manual that I need not repeat the instructions.

Speaking generally, there are four factors that may lead to the production of infantile diarrhœa in hand feeding—1st, infected milk; 2nd, polluted water; 3rd, carelessness in not *thoroughly* cleansing bottles, tubings, teats, and all utensils used for the milk; 4th, improper food. With respect to the first, it is, of course, due to causes beyond nursing control, and hence it is imperative that all the milk required for baby's use should be raised to a temperature of 212 degrees Fahr., commonly called boiling; but as a matter of experience I know that the temperature is *not* invariably raised to 212 degrees, the milk being merely *scalded* and passed off as boiled. And for this reason I advise that the boiling of the milk should be placed in nurse's hands, or some woman member of the family, and *not* left, as is often the case, to cooks or other servants. When we consider the immense dietetic importance of this matter, I think my readers, lay and professional, will agree with the writer that no precautions are too minute to secure it. By the general consensus of medical opinion it is held that even bad milk, brought fairly to a boil, will be rendered innocuous; but let us remember that the milk would be *very much better not infected*—nay, I am quite of opinion that it is deteriorated, and hence we should not relax

our efforts to obtain as *pure* a supply as possible. 2nd. Polluted water—is equally harmful as infected milk, and the *same* precautions must be observed; water, whether used hot or cold, must always be boiled before diluting the milk with it, and these two measures may be regarded as prophylactic as regards diarrhœa in infants fed on cow's milk *plus* water. 3rd. Want of cleanliness in the feeding appliances.—I will not dwell upon this point, having done so previously, but there is one matter I must just emphasise, that the boiling of milk by no means prevents its putrefaction if subsequently infected by septic matters in the feeding appliances or milk utensils.

4th. *Improper Food*.—This, of course, is impossible in *good* nursing, but, alas! it is quite compatible with that poor semblance of it practised by thousands of nurses and mothers from one end of the kingdom to the other who listen to no reason and learn by no disaster! The bills of mortality show us that whole holocausts of tender infants are hurried into untimely graves within a few weeks of their existence, and death's lethal dart is more often than not winged with—diarrhœa, the result of putrefactive changes from those undigested, and by the infant system indigestible, substances, that under manifold commercial glammers are sold as "Infants' Food" (?) and given by *enlightened* mothers and nurses to month-old babies!

Let us just trace a case—and it can be multiplied by tens of thousands—of what we will call *dyspeptic*, as distinguished from zymotic, diarrhœa; and we will assume that in the first instance the babe is nourished from the breast. We all know from experience that the mother's milk does not always suffice for the infant's needs, and say that two or three weeks after birth this fact becomes apparent; there are two ways of meeting it: 1st, so to alter the mother's diet as to bring it more into accordance with the requirements of suckling; 2nd, to give the infant supplementary feeds of cow's milk, either from spoon or bottle, prepared in the way I have told you of. Now if either of these simple and common-sense arrangements were fully carried out, the matter would require no further comment; but alas! in countless instances *they are not*, and the sum of infant miseries and the bills of infantile mortality are deplorably

augmented thereby, and the following is the more frequent order of events. Amongst our rural and urban working classes the popular alternative for a breast is bread sop, far more often than not innocent of milk; it is prepared with water and boiled down to what is commonly called a *jelly*—really a grey, glutinous mass, sweetened with ordinary sugar, and *crammed* down the infant's throat with a spoon at uncertain intervals, generally determined by "cries" on the part of the victim, whether, like little Oliver Twist, he is asking for *more*, or piteously protesting against *further* supplies, I leave my readers to determine for themselves!

Now if the only difficulty to be overcome, with respect to this infamous sop, were the physical fact of getting it down the infant's throat, and thence to the stomach, there would be little need to say any more about it; but alas! that is only the first—and by no means the worst—of the process, for the "mass" (or mess) has to pass along the whole of the tortuous and tender intestinal tube, a *via dolorosa* beset by perils and marked by pain.

As a rule the first effect of *sop*, or indeed, though possibly in a less degree, of *any* solid food given to infants, is constipation, and this is generally met by maternal medication of a more or less drastic character, and if the intestinal obstruction be removed, temporary relief is obtained, but as it is followed by the *same evil causes*, it results in totally opposite effects—an over-*relaxed* condition of the bowels, seemingly an effort of poor thwarted nature to free herself of evil matter, and that effort we call infantile diarrhœa.

It will, then, be fully realised that until a child has cut some of its teeth, its natural food is *milk*. To give bread-stuffs to young infants is a violation of this cardinal principle.

The internal digestive apparatus is only developed step by step as the teeth in its mouth are developed. Starch cannot be digested by the infantile stomach until after teeth have appeared in the mouth.

The character of the evacuations varies. They may be simply looser and more frequent than usual, or they may be altered in colour and consistency, being greenish and lumpy; worse still, the motions may be *watery*, profuse, feculent, and acrid, accompanied by griping pains in the

abdomen, which is very tender to the touch. The knees are drawn up towards the abdomen, tears flow over the *down-drawn* cheeks, the "innocent nose" has a pinched appearance, the face a pallid hue with slight lividity round the eyes and mouth. In addition to this piteous condition, we must remember that in the case I have just described the infant's system is *starved* or impoverished, by the want of *proper* food, and is in no state to resist the attack of the disease, and hence its oftentimes fatal issue.

I will now touch upon the symptoms and simple treatment of infantile diarrhœa. The former are abundantly evident by purgings, pain, and pallor, intense abdominal tenderness on touch, and a drawing up of the knees towards the abdomen during the paroxysms of pain, coldness of the lower extremities, and sometimes vomiting and convulsions. It is obvious from this description that there are five points to be attended to: 1st, to neutralise soured fermenting food, hence check the purging; 2nd, to soothe the pain in the bowels; 3rd, to free them from the offending matter; 4th, to maintain the warmth of the body; 5th, to build up the infant's strength by suitable and nourishing food.

With respect to the first point, I have found nothing safer and more efficacious, especially if the evacuations are *watery*, feculent, acrid, and frequent, than five-grain doses of the aromatic confection given after every evacuation of the bowels, so long as the looseness lasts. When that is checked a teaspoonful of castor oil given in a teaspoonful of *warm* milk once a day (better early in the morning) until the intestine is cleared of all obstruction, the evidence of which is a return to the natural colour and *consistency* of the motion. With regard to soothing remedies, ten to twenty drops of the best pale brandy (every obstetric nurse should have a drop measure) given in warm milk or barley water at intervals of three or four hours, will relieve the pain caused by the distention of the tender intestine by flatus. When there is vomiting, the *safest* antacid is *lime water* given in *barley water* with a little brandy. Magnesia if with constipation. The warmth of the body must be most carefully maintained; the abdomen and back, wrapped in a flannel bandage sewn on, and made warm,

before applied (and this must be done in summer and winter); the feet protected with woollen socks; and, in order to avoid *chills* to the skin, I advise the discontinuance of the bath whilst the diarrhœa lasts. Lastly, we come to the all important *reparative* measures. Having cleared away the "rubbish," we must set ourselves to the task of building up a *new structure*, otherwise all our medication and care will be of little worth, especially in the case of hand-fed infants, to whom my remarks more particularly apply.

With respect to the food, it must be cow's milk, given in the proportions and quantities I told you of in my chapter (Manual of Obstetric Nursing) on "Hand Feeding," to which I refer you. In order to soothe the tender intestine, I recommend a pinch of the *best* isinglass dissolved in boiling water, and added to the feeds two or three times in the twenty-four hours. And here I must emphasise the importance of using only the finest Russian isinglass, made from the swim bladder of the royal sturgeon; it is dear, but as we want but little of it, "nor want that little long," it is a wiser expenditure to buy it in preference to those manifold commercial compounds that often more resemble "glorified glue" than the delicate aforesaid gelatine, more delicate than that from animal bones. The writer knows an instance in which a teaspoonful of *fish jelly* added to a milk feed, with a little salt in lieu of sugar, was given to an infant under a month old, and the effect was apparently most soothing. We were in a strait for isinglass, and that was how we met it.

I have also found in infantile diarrhœa that a *change feed* of barley water, once or twice in the day, with a teaspoonful of *cream*, and, if necessary, a little pale brandy, soothing and *cleansing* to the stomach and bowels, especially if there be no vomiting. In fact, whilst the looseness lasts, I recommend that barley water should be substituted for *plain water* for mixing the milk with. I have given minute directions in my Manual of Obstetric Nursing for making barley water for our patients.

For recurrent diarrhœa or *temporary relaxation* of the bowels, the time-honoured remedy, *raw* arrowroot, a teaspoonful mixed with water or dill water, two teaspoonfuls of either, and given as a *medicine*, is simple, safe, and

efficacious ; but the remedy must not be continued longer than necessary, as arrowroot is in nowise *food* without cream or milk. Nor does it easily digest in young infants.

Under ordinary care an attack of infantile diarrhœa passes off in a few days, and, when the ordinary food can be taken, the little patient quickly recovers.

Before leaving the subject of infantile diarrhœa, I must give a few words of earnest caution to mothers and nurses with respect to domestic medication under two familiar forms, each of which has a serious bearing upon infantile health, viz., the *reckless* administration of *Opiates* and *Alkalies*, especially the former, which it *is wiser to leave in* medical hands.

We can perfectly understand the feelings of distress with which a mother witnesses the suffering her baby endures from the pain of diarrhœa, nor can we be altogether surprised that she unwisely resorts to those specious panaceas, "Soothing Syrups," "Cordials," and "Pain-killers," which do *not* really touch the evil they are represented to cure ; and, when ignorantly persisted in, may truly be called "Baby-killers." At the best they add to the difficulties of scientific treatment of the disease, and, worse still, *hinder* the recovery of the little victim by *lowering* his *vital powers*, upon which recovery depends.

With respect to alkalies, they are, of course, less mischievous in lay hands, but by no means free from evil in careless ones. Vomiting and an acid condition of the stomach frequently accompanies diarrhœa, and gives rise to much gastric pain, and magnesia or chalk, if judiciously given and in suitable *forms* and *quantities* is of great service ; but in nursing hands the *safest* antacid is, as I have told you, lime water, and the best way to *cleanse* the stomach is to give bland fluids, which, even if ejected, bring away the acrid matter with them. But, alas ! simplicity is *not* in favour with those Heaven-born geniuses who undertake to medicate for helpless infancy, and the most popular alkali is bi-carbonate of magnesia, given, to the writer's knowledge, in *half* teaspoonfuls at a time, about *thirty* grains to a dose, under an impression that it is *perfectly simple and harmless* !

Having dwelt upon the infantile form of the disease arising from improper food, and hence under nursing con-

trol, I will briefly touch upon infectious or zymotic diarrhœa, due to circumstances *not* under nursing control, notably defective drainage or a cholera epidemic. The difference between the zymotic or infectious and what we have called dyspeptic diarrhœa, is more marked by the *results* than the *symptoms*, which are much the same in both cases, and require similar treatment as regards nursing. The former often comes on with great suddenness, and from no apparent cause, proper food and careful tending being given; it does not yield so readily to treatment; it is marked by choleraic developments, and is more frequently fatal.

In cases of infectious infantile diarrhœa, antiseptic measures and precautions must *not* be overlooked, both as regards the little patient and the nurse herself. When the soiled napkins are removed they must at once be placed in an *earthen* vessel and saturated with carbolic solution (1 in 20) before they are sent to the laundress, which should be done once, if not twice, a day, *and then washed*—rinsed in abundance of clean cold water, and, if necessary, boiled again, rinsed, and hung out to dry in the open air—*no washing* powders to be used. *Soft water*, if obtainable, and the best *curd* or yellow soap are quite sufficiently detergent. Such napkins must be washed *apart* from all the linen required for cot or baby—the cot sheets and baby's gowns can be washed together, the flannels and cot blankets (these last will not be much soiled with careful nursing) separately. If draw-sheets are required for the cot, they must be treated in the same way as the napkins—when they are changed. The waterproof sheeting used to protect the cot bedding must be washed every morning with weak carbolic, and exposed to the air all day; of course, *two* pieces of the waterproof will be required. Sometimes waterproof *pillchies* are used for the infant in these cases. I entirely deprecate them in health or disease. When changing the infant, nurse of course wears her waterproof apron, and across her knees a warm Turkish towel; the buttocks must be washed with warm soap and water with soft flannel; rinse that out and wipe the soap off; you can then sponge the parts with weak carbolic (1 in 100), keeping the sponge for that especial purpose; wipe the buttocks perfectly dry with a soft napkin,

and dust them with the boracic acid flour. There is often excoriation of the genitals from the acrid character of the evacuations. After removing the napkin or the infant's soiled clothes, nurse should wash her hands and rinse them in some antiseptic solution.

The severest form of infantile diarrhœa is cholera infantum, when sanitary measures are doubly necessary to prevent the spread of the disease, but to many minds they may appear superfluous under the circumstances I have just detailed as marking the diarrhœa of very young infants; but a little reflection will show us they are, if not absolutely essential, highly expedient. It is true, infantile diarrhœa is not infectious in the same sense as scarlet fever and small-pox are, but it can undoubtedly be *spread* by neglect, especially in the matter of washing management. Sanitation should begin *at home*, and it will most probably end there.

For instance, a nurse is attending a town lady—I will say London, as some dismal metropolitan experiences in this matter run in my mind. Baby has diarrhœa. The washerwoman lives in a remote and probably not a highly salubrious locality. We all know that Mrs. "Sudds" is much too *enlightened* to pay the least attention to any verbal directions she may receive from nurse as to baby's washing if they in the slightest degree interfere with her arrangements or jar with her "whims," and, as far as *purification* is concerned, the napkins come back to the house much as they left, and more likely than not were dried *under cover*, never had a breath of fresh air through them. Now, if we had taken the simple and common-sense course I have described to you of disinfecting the napkins *at once*, we should have, to a certain extent, got the best of Mrs. "Sudds" and avoided "friction."

Infantile bronchitis is a frequent disease in very early infancy, for, whether under breast feeding or hand feeding, death often results from it a few weeks after birth.

Unlike the other infantile ailments I have touched upon, it is due to *external* influences, such as low atmospheric temperature, dampness, aërial impurities, and *locality*, this point being of interest, as it involves not merely differences of latitude, but the difference between one side of the street from the other—in short, *climate*, and we all know what an

important factor that is in the production and cure of the disease, whether infantile or adult.

In order to give my nursing readers an interest in the subject before us, let us briefly consider the disease itself. Our text-books tell us it is an inflammation of the bronchial tubes or air passages of the lungs. Now the outer air is brought to these tubes by an involuntary muscular act, commonly called breathing, but the inspired air does not enter at once into the lungs, but passes first through other and outer air passages. Let us trace the course of an "inspired" aërial current. In the first instance, it impinges upon the mucous membrane lining the nose at its lower end, the nostrils, and thence up to the posterior nares. Physiologists tell us that the nose serves as a sort of stove to warm the air before it enters the more sensitive air tubes. But it does something more than this; by means of the cilia or fine hairs that grow from its inner surface, and the glutinous secretion which covers its surface, it strains out dust, soot, or other irritating atmospheric particles that would otherwise find their way to the lungs. The next stage on the aërial journey is from the posterior nares to the larynx situated at the top of the trachea or wind-pipe, which it safeguards, in this wise. The larynx, which is somewhat hour-glass in shape, is contracted about the middle by a triangular chink called the glottis, and this is protected by a heart-shaped piece of cartilage called the epiglottis, which acts as a tireless sentinel to guard what we may almost call the portal of life from the intrusion of any foreign invader by instantly but temporarily closing the trachea. This singular structure has been compared to the lid of a pitcher—shall we not *also* say a *living lid*?—opening and closing at command of the nerve centres. The supreme importance of this beautiful piece of mechanism will be the more brought home to us when we reflect that all the food we swallow passes over the larynx to the gullet or œsophagus, and that the act of deglutition temporarily closes the tracheal valve, and were it not for this merciful provision our earthly careers would terminate at our first meal. And we all know what it means for a crumb to "go the wrong way"—that is, into the windpipe. And here I must remark that the glottis has a very important influence upon

infantile life, for, from causes not always to be accounted for, it is liable to a nervous laryngeal affection called spasm of the glottis, which leads to a closing of the windpipe, and very speedy death from suffocation, and this terrible blow often falls upon the finest and healthiest infants. This calamity does not often fall within the experience of obstetric nurses, but they see something analogous to it in the spasmodic crying of young infants, "holding their breath" as it is called, and the dusky hue of the face shows that the trachea is *temporarily* closed, and, unless an inspiratory act were promptly excited, suffocation would ensue. When an infant has an attack of this kind raise him up, turn him face downwards over your arm, and administer a sharp "slap" on his back to make him cry, when all danger is over.

From the larynx to the root of the trachea is the next stage of the journey, and the air reaches the right and left bronchi which I may almost call "air mains." The *right*, about an inch long, takes a course almost at right angles to the trachea, and enters the upper part of the *right* lung; whilst the *left*, *two* inches in length and smaller, passes between the aorta and enters the *left* lung. Upon entering the lungs they divide into two branches, and each of these divides and subdivides to their ultimate destination in the air cells of the lungs, like a tree branching out to its leaves.

In health, the whole of this wondrous tubular system is intact and pervious to the air to its minutest ramifications, but any obstruction to the passage of the air to or from the lungs gives rise to discomfort, pain, danger, and in extreme cases—death.

But these air tubes are not merely *tubes* for the mechanical conveyance of the air to the lungs; they have a life of their own and a special function to fulfil, for, like all the open cavities of the body, they are lined by a highly vascular and sensitive mucous membrane, which in health secretes a clear bland fluid that soothes, moistens, and cleanses the air passages and bronchial tubes, and this last becomes patent to us in the sooty particles from the atmosphere caught by the mucus and expelled in the phlegm.

In catarrhal affections of the respiratory tract, an increased secretion of mucus takes place, and profuse expectoration of

a tenacious glairy phlegm; the inflammation takes a downward course towards the lungs, and the deeper it spreads the more dangerous does it become. When the larger bronchial tubes are attacked, it is called bronchitis; when the ultimate air cells are reached and blocked with mucus it is termed capillary bronchitis, and, as a rule, death ensues from pulmonary obstruction throughout the minute tubes.

Let us now thoughtfully consider *why* bronchitis is so extremely dangerous in *early* infant life. At birth, the circulatory system is in a state of intense activity, the heart beating 140 to 150 times per minute, and the respirations proportionately rapid, 39 to 40 per minute. But this extreme rapidity gradually lessens and the normal heart beats (pulse) in the first month of infant life are about 120 per minute, the respiration 20 to 39. In very young infants, the breathing is very irregular; the younger the infant the *less* the chest dilates, the more freely do the muscles of the abdominal walls and diaphragm act; hence the respiration is said to be *abdominal*.

The respirations are quick but feeble, and in infancy the consumption of oxygen is smaller and the power of maintaining animal heat less than at later periods. The temperature in infancy is lower than in adult life. The bulk of an infant is much less in proportion to the amount of its surface; therefore it loses heat more quickly than an adult. A consideration of these facts shows us how the force and rapidity of the circulatory system, in early infancy, tends to spread inflammation affecting the respiratory tract. But there is something more than this to be learned from these physiological conditions of infancy. They are not to be regarded as mere data culled from text-books to be read and forgotten, but facts of the deepest significance and value to every mother in the land, and every woman engaged in the care of young infants; a knowledge of them will guide us in every duty as regards the food, the clothing, the slumber, the tender care of the newly-born.

Nothing has a more depressing influence upon the infant system than the action of cold, which it has no power to resist—truly, the most helpless of young mammals is our baby, for he has not even a soft furry coat to keep him warm!—he must trust to loving hands and wise heads to

comfort and protect him. Let us, then, return to our subject—infantile bronchitis—and see if we cannot apply our knowledge towards lessening the risks of, and minimising the danger from, one of the most serious of infant diseases.

We may almost say that we begin life with a “cold,” for it is the action of *cold*—the transition from a temperature of 98 degrees to one of 70 degrees or 60 degrees—we owe the first inspiratory “act,” commonly called crying; at birth, too, the trachea is often filled with fluid, and, unless it were promptly drained out, numbers of infants would perish. During the process of washing and dressing, we may notice a little clear fluid running from the nose, and baby may indulge in a sneeze or two, but these little respiratory troubles soon disappear when he is laid warm in his cot. With ordinary care a newly-born infant should *not* have bronchitis. How is it, then, that they do, and that so severely as to carry off hundreds of them annually, within a *few weeks* of their birth?

One factor in the production of the disease we cannot *prevent*—*climate* (British); another that we cannot *foresee*—the frequent and sudden changes of *temperature*, whether in summer or winter, in our most variable of climates. Evidently, then, an obstetric nurse must exercise care and good management to forestall, or alleviate, the respiratory dangers from these two causes that threaten her little patient. Again, *season* has an important influence. An infant born in the winter would be more liable to “catch cold” than one born in spring or summer; and the risks from *season*, again, may be increased or lessened by the *aspect* of the infant’s room, and I must ask the earnest attention of mothers and nurses to this point, which may almost be classed as one of localised climate, and every house has *two* climates, for the reason that every house has *two* aspects—that is, it fronts one or other point of the compass. If it faces the south, it is said to stand N. and S.; if the west, E. and W., and so on through all the variations of the compass. In country houses standing detached, we may have rooms with four different aspects; but in town dwellings, whether metropolitan or provincial, where houses are built in lines, on each side of the streets, we only get two aspects to each house, back and front, and, when these are N. and S. respec-

tively, the rooms facing the south should be selected for the reception of the "coming guest," because, by this arrangement, we protect our little charge from the cold northerly winds, and secure for him all the low-shining but cheerful beams of the winter's sun, and in due time enjoy the brightening glows of the spring *sunshine*. That is, the *diffused* (not direct) rays of the sun, such as we get them in a sunny room, have a most beneficial influence upon infant health and *growth*; under its genial influence he grows like spring flowers in a greenhouse. The room should be kept up to an even temperature of 58 degrees to 60 degrees Fahr. day and night; hang the thermometer on the *outer*—that will be the *southern*—wall of the room, and away from the fire, or the gas burner at night, if there is one in the room, and scan it at intervals during the twenty-four hours. In the winter and spring months it will require a considerable amount of artificial heat, especially at night, to keep up the required temperature—60 degrees Fahr.—which you will find *safer* during that period of the year, when the air of the house may be 20 degrees, and the outer air 30 degrees or 40 degrees colder than the room.

Space and Ventilation are points not to be overlooked in the infant's room, as they have an important bearing upon respiration. Medical writers tell us that in health we require something like 800 cubic feet of *well* ventilated space to breathe in, less for women than for men; and if our baby had a room for himself and nurse only, half that amount would serve them. But, as the mother and infant usually occupy the same room, considerable addition to the cubic feet of "well ventilated space" will be necessary—that is to say, we want a larger room, one capable of containing more cubic feet of air. For instance, let us assume we have a room 10ft. high, 10ft. wide, and 10ft. long; this would give us 1000 cubic feet of space for mother and infant. We often get more, but more often less; so, as a rule, in private practice, we do not lack space. But there is something more than space required; it must be *well ventilated* space; that is, the air used up by breathing must be constantly renovated and purified. I have dwelt upon the subject of ventilation of the lying-in room in my Manual of Obstetric Nursing, and refer you to that as regards

the mother; but it is one of infinite importance to the newly-born. The constant breathing of a vitiated atmosphere, such as that of an ill ventilated bedroom, especially a lying-in room, is, in itself, a predisposing cause of inflammation of the breathing tract in early infancy, and a spark will surely kindle it into the fire of fever, and, in extreme cases, will lead to a fatal attack of bronchitis.

Purity of atmosphere is not attainable in towns, but a careful regard to *ventilation* is, and, whether mother and infant occupy the same or separate rooms, I should advise the purification of the air by that means. This remark applies to *town* houses; in the country we can always sweeten the air of the room with the fresh air from without—no need for artificial aids to purification there! But upon the principle, I suppose, “that all is not gold that glitters,” we get (by no means rare) *ill* ventilated bedrooms in *country* houses, as patients will sometimes object to have the windows *opened* if it happen to be any other season of the year than “dog days;” and some of the worst *ventilated* (abundantly spacious withal) rooms in my experience have been in country houses, and any suggestion on my part that we should have some fresh air in the room by opening the window has been so severely *negatived* that the “idea” had to be abandoned. Ventilation means the continuous renewal of the air of the room, whether in town or country houses, and the indraught, however small, must come from out of doors, so as to supply *fresh air*. But the current must be so regulated and deflected upwards as not to strike the persons of the inmates.

We have touched upon “Respiration,” *Aspect, Space, and Ventilation* as they bear indirectly upon the subject of infantile bronchitis; we will now consider the causes that have a direct influence in producing the disease, and in what way we are to meet them.

Infantile bronchitis does not come on at once, but is usually preceded by catarrhal symptoms, which, only slight at the onset, should never be overlooked nor neglected. The chief cause of the disease is the *continued* action of cold upon some exposed portion of the skin, generally the head and face of the infant, which necessarily are more exposed to the air than any other part of the body; the

head also is the hottest part of the infant, and if unwisely over-heated by "wraps" is made still more sensitive to cold. After the first washing and dressing, the head is protected by a flannel square, and, as I have pointed out to you in my Manual of Obstetric Nursing, this head wrap should be made of fine soft *Saxony* flannel, which is both warm and light, and, when the infant is placed in his cot, it should be kept loosely round his head. The former should have muslin head curtains to protect the head from the air, without in the least oppressing it, but these arrangements are by no means uniformly carried out. The head, even from birth, is "swaddled up" in ordinary Welsh flannel, whether placed in the mother's bed or his own cot; if the former, the head becomes still more heated, and is often bathed in perspiration—the only part of the infant's body that you know perspires. Now, when an infant is taken out of bed or cot to be changed or fed, especially by the *soda-water* bottle feeding, he is naturally taken close to the fire for the necessary manipulations, the "square" is either taken off or falls off, and nurse may possibly overlook the fact that the bedroom door is partly open, and that the incoming air, or "draught" (and nowhere is it worse than in small houses), blows full upon the infant's head and face; when we reflect that this kind of thing may take place half-a-dozen times in the day, we can understand where the risk of "catching cold" comes in. The focus of incoming draught is at the fireplace, and therefore, unless protected by a screen, the baby is specially exposed to the draught. Now, if the air without were as warm or warmer than the air within the house, this matter of the open door would be of no consequence, as there would not then be any "draughts"; but in our climate this even atmospheric temperature exists but for a brief period of the year, that we are accustomed to *call* summer, and the cases in which the temperature of the house is made equal by artificial heat rare; and here I must remark that all the difficulties of Obstetric Nursing deepen as we descend the social scale, and hence greater nursing skill and *resource* are needed to meet them. The evil effects of "draughts" are soon evinced by slight symptoms of catarrh or "cold in the head," running of the eyes and nose, and sneezing, and the poor little nose is the first point of

the attack of the enemy, and we must remember that useful and ornamental feature has not yet attained to the proportions of the perfect and the high-bred aquiline or imposing Roman of future years, and that it is at the best but a poor "stove" to warm the air for the lungs, and the irritation of its mucous surfaces will quickly spread to the wind-pipe and bronchial tubes if *incipient* symptoms are *neglected*; shall we regard or *disregard* them, and go on with the open door? Our first care must be to keep the air of the room up to an *even* temperature of 60 degrees or 65 degrees Fahr., and by this means and carefully *avoiding* chills to the skin, the little cloud may pass over; but, if not, what are the next symptoms on the *downward* path? Hurried breathing, quickened pulse, rise of temperature, tearing dry cough, and restlessness. These symptoms will be still further aggravated, from the third to the fifth day, from the *first* signs of a "cold." The respiration becomes wheezy and difficult, the cough (and it is surprising how babies can cough) is more frequent, accompanied by mucous rattle, and the accumulation of a ropy, tenacious phlegm that must be frequently wiped from the mouth. And here I must remind my young readers that, although a young infant can cough, he has no power to expectorate; hence a large portion of phlegm is swallowed and passed through the intestines, where it gets mingled with the evacuations, producing the so-called "slimy motions" seen in infantile bronchitis, which often occasions unnecessary alarm in the minds of mothers and nurses, for Nature is simply removing a waste substance through the bowels that in the adult would be expectorated. Another trouble is that when the infant is put to the breast, he sucks eagerly for a few minutes, when increased difficulty of breathing forces him to desist, and a fit of coughing distresses him still more. In these cases the child must be fed with milk and water from a spoon, I have found in these cases the use of the long-tubed nipple shield for suckling serviceable, as by this appliance the infant's face is more exposed to the air, and he can be fed without raising him up; start the milk, to begin with, and it will flow into the infant's mouth. If the maternal milk flow is abundant, too much for the infant's strength to take, we must relieve the breasts with the breast pump; on no

account, allow them to "wedge," and feed the infant with the breast-milk through the reversed nipple shield, which is preferable to a spoon.

The cough, then, is the beginning of baby's bronchial troubles, and it is at this point that the danger of the disease is seriously increased, and its scientific treatment sorely hindered, if not altogether nullified, by two common but regrettable errors on the part of mothers and nurses: 1st, unwise delay in obtaining medical aid; 2nd, still more unwise "tampering" with the disease itself, as my readers can understand from the physiological facts I have so recently touched upon. We will discuss first the last-mentioned fallacy—unwise interference, which usually manifests itself in the form of topical applications and medicinal (?) remedies, which we will briefly follow out, as they affect a tender little life of some three or four weeks old! With respect to the first mentioned—baby has a "wheezing" on the chest, and a slight but teasing cough; the new developments are met with the time-honoured linseed-meal poultice, applied in the worst possible way—*on* the poor little labouring chest—and its respiratory troubles increased thereby. Plasters are also resorted to, those made with old tallow enjoying a wide popularity—nay, even *mustard* the writer has known used. "Rubbing" is also called into requisition, such soothing (!) substances as goose oil and brandy, "horse oils," or any embrocation that may be about, often strong enough for a child, applied over the infant's chest. The little patient is also oppressed with "wraps"—heavy shawls, to wit—to keep him warm and pin down his arms, and thus occasion a sense of suffocation to his other miseries. These somewhat drastic measures are also supplemented by rash medication. "Cough stuffs," or paregoric—that "drug of woe" to early infancy—are fetched from the chemist's shops, and, more often than not, administered with a *daring* disregard to *quantities*, in order to "cure" the cough—and if I add to kill the baby, I shall not be wholly wrong; *intervals* also being dependent upon the frequency of the coughing fits. Now, I do not assert that any of the things just mentioned are bad *per se*, but I do say that the unwise, reckless, and oftentimes quite *unnecessary*, use of these and similar remedies are almost as dangerous to

infant life as the disease itself, and that mothers and nurses should bear that possibility in mind, hence I have dwelt upon them.

Nor do I wish to imply that every tender infant will die of bronchitis, even under adverse conditions; but I do most emphatically wish to impress upon the minds of my nursing readers that no infant is the better for an attack of bronchitis. It is not only a dangerous, but a *damaging*, disease, even to healthy infants, and its evil effects are often shown in the later troubles of infancy, such as measles and whooping cough. These diseases it may not be in our power to *prevent*; but we can to a large extent forestall bronchitis, by *careful* nursing, and also minimise its inevitable dangers when it unfortunately exists.

Let us now consider what we can do in these two directions, and retrace our steps a little. We have seen that bronchitis may begin with a cold in the head or common catarrh, and with care and under favourable conditions it may end there; in the meantime, our baby is very uncomfortable; the running from the nose makes it tender, and the breathing through it stuffy. We must lubricate the nose all over with white vaseline or cold cream, and a *soft* clean piece of sponge wrung out of hot water and *lightly* held over the mouth and nose two or three times a day or more will relieve the "snuffling." I have found this simple inhalation of warm moist air very soothing, especially when, in addition, we raise the temperature of the room to 65 degrees or 68 degrees Fahr. The head must be kept warm with a small but light (Shetland wool) shawl that will protect the *ears* and a portion of the face from "draughts" in the direction of doors or windows, and when the infant has to be fed the tubal bottle can be used *in* the cot; or if he is to be changed, bring him near the fire, remembering to *keep the feet* towards it, *not* the head, and set up a screen, which can be made of a clothes horse and a blanket.

We will assume that the inflammation spreads *downwards*—that is, from the outer to the inner air passages—and we get the bronchial symptoms I have so recently described to you with increased mucous secretion and cough. At this stage of the disease you will find as an *immediate* remedy a teaspoonful of pure glycerine and an equal portion of sy. tolu,

with a little citrate of potash, mixed with one tablespoonful of warm milk and water, or barley water, given in teaspoonful doses every two or three hours, *safe* and soothing to the air passages, helping up the phlegm. Ten grains of ipecac. powder is a perfectly safe and most valuable remedy twice a day so long as the breathing is short or the air tubes obstructed. Sometimes this acts as an emetic.

As a topical remedy to ease the breathing, lubrication of the chest walls with vaseline and medicated cotton wool made hot by the fire will prove useful pending medical aid that cannot always be obtained on the spot, especially in country places. With regard to linseed-meal poultices for tender infants, within four weeks of their existence may be, I do not advise them without medical sanction, for in changing the poultices there is always a risk of chilling the sensitive skin of the infant. However, when they are ordered, they must be applied in this wise—over the back and between the shoulders, and *not* over the chest, so that baby lies on them—not *under* them as it were. Hence we avoid chest oppression, so undesirable with the hurried, difficult breathing of bronchitis. The poultices should be spread upon a piece of *soft* muslin, not brown paper, and the skin lubricated with vaseline before they are applied, so that they come off clean. I have told you how to make linseed poultices. In bronchitis extra covering for the chest is required, and for *lightness* combined with warmth a knitted woollen bodice high in the neck and long in the sleeves is the best thing, and this little garment must be worn day and night, and, if in the winter, gone on with until convalescence is established. It is also necessary to keep the lower extremities warm, by placing the hot-water tin in the cot, and putting socks on the feet, for the circulation in the lower extremities is very feeble in bronchitis. As well as raising the temperature of the room to 68 degrees Fahr., it is usual to moisten the air of it by the regulation bronchitis kettle, or it can be done by fastening a tin disperser to an ordinary kettle or a piece of *indiarubber tubing with a rose at one end*. The writer has known this last plan serviceable; firstly, from its flexibility we can turn it in any direction we wish; secondly, we can have it any length we like—and the disperser any *fineness* we wish—to render the vapour more

diffusible, and minimise the effects of *condensation*. The cot should be brought near the fire and *back* to it, so that the radiant heat from it does not fall upon the infant's head and face. As the vapour from the bronchitis (or other) kettle condenses and cools, it is apt to moisten the cot pillows, bedclothes, and curtains, which is not altogether desirable—you can protect the infant's head from the moisture by placing a piece of *soft* flannel on the pillow, and drying it from time to time; but the head (which is always hot when fever sets in) should on no account be smothered up with "wraps," nor the chest, for any increased difficulty in the way of breathing cannot be borne in bronchitis.

As well as warmth and moisture, I should recommend an occasional Condyl spray as an aërial purifier, or, for the same purpose, sprinkled on an open towel and passed about the room. *Foliage* plants, such as the oak-leaved geranium or other odoriferous plants, give freshness and fragrance to the air, especially if we have the ever-welcome sunshine to warm and cheer the apartment we convert it into a miniature conservatory. Of course, these little simple measures I have pointed out are necessary only in town houses; in the country they are but little wanted, for the deodoriser has yet to be invented that can compare with the pure fresh air of the country, but in respiratory diseases of infancy, purity of the air is necessary as well as warmth and moisture to aid recovery.

One distressing feature of infantile bronchitis is restlessness. The hurried, painful breathing, the teasing cough, the accumulation of mucus in air passages, the feverishness, break the infant's sleep, and soothing remedies are required. Narcotics (as I have mentioned before) are not desirable in lay hands. They are nerve poisons at the best, and tend to lower the *vitality* of the infant system, and thereby its recuperative power, which, under *unembarrassed conditions*, is simply marvellous, as all mothers and nurses know. As far as my observation goes, I have seen good results of minute doses of ipecac., given by medical direction; it quiets the tumult of the circulatory system, and relieves the infant from the ceaseless pain and strain put upon it; small doses of acetate of ammonia are beneficial, though, of course, these remedies are not to be used by lay hands

still, as obstetric nurses, you will become familiar with them in infantile bronchitis. However, whatever the medical treatment may be—and it differs considerably—there is no doubt upon one point, the imperative necessity of good nursing for the little patient.

Great care is needed during convalescence to keep the chest protected by a woollen bodice, especially if the attack takes place in the winter months, and also that the day and night rooms should be kept up to an even temperature of 60 degrees Fahr. And, in my judgment, it is better to keep the infant in a warm, sunshiny, well-ventilated room—keep the heat of it up by a large fire, which also ventilates it—for some months after the attack (if winter) than to hurry the going out; and to defer that unimportant matter to the infant until the temperature of the outer air approximates to the air of the room. For instance, we might have a bright April morning, with a cloudless sky, but a keen Polar or east wind that would be trying to the baby lungs, and we must remember wraps do *not* warm the air he breathes. The writer has oftentimes seen a disregard of these simple considerations result in another attack of bronchitis, and further weakening of the chest.

To prepare for the going out, as the spring advances, you must admit a large current of fresh air through the room every fine morning—between 10 a.m. to 12 p.m. being about the best period. Now, if you have two rooms for the infant, this is an easy matter, because you purify the day room before bringing baby into it, and *vice versa*. But if you have only one room for the infant—how then? You must ventilate all the same, and, whilst doing this, place the cot out of the draught from door and window, protect the head with the square, and close the cot curtains; if there are none, place a large knitted shawl all over the top of the cot, tent-fashion as it were, whilst you are airing the room. When this is done, close the door; but if the day is warm and *sunny*, leave the windows open for a time; this ventilation, in addition to a fire, will keep the room sweet if in the country, and all the fresher in towns.

With respect to feeding in infantile bronchitis, there is but little to be said if the infant be breast fed, and the little difficulties in the way of sucking can be met in the way I have

already mentioned. But it sometimes happens that anxiety over the child interferes with the mother's milk flow—it may become lessened in quantity or deteriorated in quality, and hence disagree with the infant. Now, if these two conditions appear likely to become *permanent*, I should advise that a good wet nurse be obtained at once, as breast feeding will better aid the infant's recovery than hand feeding.

If, however, we have to resort to the latter, we must be especially careful to *daily test* the milk, sent for the infant's use, with respect to its richness in *cream*; if in excess, it must be subtracted so as to assimilate it to the quantity contained in breast milk—if in deficiency, cream must be added for the same object. I have touched upon this subject in my Manual of Obstetric Nursing on "Hand Feeding." But the value of *cream*, or the oleaginous constituent of milk, for the infant's well-being *at all times* cannot be too earnestly impressed upon the minds of mothers and nurses, and it is in the milk of commerce that its *deficiency*—nay, in thousands of instances, *absence* (in town supplies)—is so detrimental to infantile health and *growth*, especially with children who are spare in person.

In cases of *temporary* failure of the mother's milk, or its deterioration, one can give the infant change feeds of gruel or barley water sweetened with the addition of a teaspoonful of cream. In fact, these mucilaginous drinks appear to comfort the stomach and intestines, for at times the milk curdles in the stomach, from not being diluted enough, and, being vomited, adds to the abdominal tenderness we notice in infantile bronchitis, possibly due to the strain of coughing. If gruel be given, I should advise it to be made and strained from the Emden groats, boiled at least two hours, and thinned down so as to be given through the feeding bottle. I know of no gruel *more* delicate for mother or infant than the time-tested preparation aforesaid. But whatever kind of oatmeal you may have to use for gruel, remember it must always be *thoroughly* cooked. I merely mention this point because I *know* it is very often neglected or overlooked, and its dietetic value diminished thereby.

Before leaving the subject of the respiratory troubles of early infancy, I must remind my young nursing readers

how great is the need of *tender* handling of the infant, in sickness or in health. I have dwelt upon this matter as regards the *head* in my Manual of Obstetric Nursing, and refer you to it; but we will now take a wider view of the subject, as it is one of much practical importance as regards the care of infants from the moment of birth.

There are two physiological facts that, as I have observed before, should be known by heart by every nurse and mother to whom is entrusted the care of infants, for an ignorance of, or disregard to, them is fraught with evil to infantine health and growth:—1st. The extreme rapidity and force of the heart's action. 2nd. The rapid rate of growth evidenced by increased *weight*, which, as we all know, is a marked feature in healthy and well cared-for infants. These two vital processes are interdependent, for the ceaseless demand for tissue material demands a constant and rapid supply of arterial blood upon which healthy renewal or growth depends, and the maintenance of these two vital processes alone make immense demands upon the feeble strength of infancy. Now, there are four deductions to be drawn from these facts that are of great interest, as they help our little patient to carry on successfully that struggle for existence that begins with his first breath:—1st, pure air; 2nd, pure food; 3rd, artificial warmth; 4th, sleep. And the first three will promote the last; and we all know the more a baby sleeps the more a baby grows.

But there is still another point that is alas! but too often overlooked—the need of *repose* as applied to the *waking* state; and this again will lead us to the subject of “handling.” We have seen that the infant heart-beats are extremely frequent, the respiration rapid, and the *slightest* influence *from without* will disturb the balance of the circulation mostly in the direction of increased rapidity, for we all know what a little thing will make our baby “start” when awake, and it always appears to me that this “starting” is akin to fright, and, in infants, is generally followed by “cries.” However, be this as it may, “starting” is an infinitesimal convulsion; it accelerates the circulation, and *whatever* does this, uses up, as it were, a portion of the reserve strength of infancy, and a *hurried*,

careless method of handling is a frequent cause of this disturbing influence; and when we consider how many duties a nurse has to perform for her little charge in twenty-four hours, the value of my observations will become apparent to you.

A firm, *light* hand, a *calm*, tender touch, are as gifts in the care of infancy, for if poor baby gets a "fright" *every* time he is attended to, we all know he does *not* thrive under the ordeal. In some women, whether mothers or nurses, this "soothing" palmistry is inherent, and I earnestly advise all obstetric nurses to acquire it for *their own interests* as well as the comfort of the baby. It is a matter of common observation, that infants "get on better" with some nurses than others, though all may be equally competent, and, from observation, I incline to the opinion that "touch" has much to do with it, as tending to induce a feeling of *security* and *comfort* in the babe. I have particularly noticed this difference in handling in different nurses during the washing and dressing processes, as accompanied in the one case with piteous cries, and on the other by only "mild protests" in that direction, and I need scarcely remind my nursing readers that *much crying* is distinctly bad for infants in every respect, and in extreme cases (to the writer's knowledge) may end in death from exhaustion.

I have dwelt upon sleep as conducive to infant growth and health; but in the waking state, *repose*, as I have just said, is almost as important, and this, again, may be continually disturbed by *hurried*, thoughtless handling. For instance, baby wakes up in his cot and indulges in some "cries"; his nurse *rushes* to him, hastily drags him up by one or other arm, or by the middle of his clothes (over the chest), and instantly puts him over her shoulder, and administers a series of rapid "taps" on his back; "cries" continue; nurse sits down, places baby in a sitting position on one knee, and tries "jerks" (sometimes called "joggling"); "cries" redoubled on the part of the infant. Now, when we reflect that some such misguided, though doubtless well-intentioned, manipulations take place every day (we may almost say every hour of the day), can we feel surprised if they increase the trouble (crying) they were intended to

quiet. That poor baby gets a *dreadful* character for being "cross," and nurse loses her *prestige*. Amongst other disturbers of infant repose I may mention *rocking*—whether in the cot or the nurse's arms; it sends the blood to the brain, and, *from birth*, an infant should be accustomed to being *laid down* to sleep without *rocking*, and it is well known how easily this habit may be got into, quite as much so as the "rocking." "Tossing" an infant up and down in the nurse's arms is best avoided; it affects the breath and quickens the respiration. Some women, too, have a peculiar way with infants that is neither rocking nor "tossing," but a little of each. They place baby on their laps in a sitting posture, and pass him first over one arm, face downwards, and back again to the other, face upwards, and this sort of swaying motion will be continued for ten minutes or more at a time, the effect being, as far as my observation goes, more that of an emetic than of a sedative to the patient.

Some of my nursing readers may ask, Is an infant merely to be gazed at and never moved about? *By no means*, for, when awake, he likes to be *gently* taken up, and to look about him; it is some of the methods adopted by nurses to carry out this laudable desire on the part of the little patient to which I take exception. I have told you in my Manual, p. 177, how to take an infant up from his cot, and need not repeat the instruction, but emphasise that *no deviation* from those rules must be made during the period of a nurse's attendance. There is one little point I must mention—how to hold an infant, when awake, securely with one hand—a necessary feat when nurse wants to temporarily free her right hand. Place the infant on your *left* arm, the back of the head resting on the bend of the arm, the buttocks on the palm of the left hand, and draw the whole arm near to your left side; by this means you extemporise a "cradle," and hold the infant with perfect *security* and *comfort*—at least the writer's experience leads her to that conclusion, as the babies are always "good" in this position. I have dwelt upon this little plan because, in one-handed carrying, a nurse will often put an infant into uncomfortable positions—for instance, face downwards over one of her arms, or face downwards over her shoulder, so that baby keeps

slipping down head backwards if nurse has only one hand free to protect him; and so with other undesirable methods.

I trust I have now sufficiently pointed out to nurses the importance of careful, *thoughtful* handling, for many of these little errors are more the result of want of thought than actual carelessness.

There is yet another point bearing upon infant life of much interest in midwifery nursing—the effect of zymotic diseases upon the unborn and the newly-born infants when unhappily they are exposed to them.

There are two channels by which infection may be conveyed. Firstly, to the unborn through the maternal system; secondly, to the newly-born through external influences, such as the existence of disease in the house at the time of birth, or through *visitors* who may come to it.

With respect to the first mentioned—the maternal system—we often notice a singular *transference of immunity* from disease in one life to the other, and, as far as the writer's experience goes, one or other life is more often sacrificed than *both*. For instance, a woman having contracted typhoid in her last month of pregnancy is delivered of a dead child, showing every evidence of blood poisoning; the mother recovers. Another under similar conditions gave birth to a living child, who lives and thrives; the mother dies. The same has been observed in small-pox.

The second channel of infection—external influences—such as the existence of diseases in the house, or from *visitors*, as they affect the newly-born, is of more practical importance, as they fall within the range of prevention, and by taking timely precautions both lives may be preserved.

And here I must again remind those of my readers engaged in midwifery work how greatly the operation of the Notification of Infectious Diseases Act has conduced to the safety, in all grades of society, of the mother and infant from infection during childbed.

For instance, scarlet fever breaks out in a house where a woman is shortly expecting her confinement. It is obvious there are two measures absolutely necessary to safeguard the maternal and infant lives—either the sick must be

removed from the house, or the mother, and amongst our working classes the former is the course most generally pursued. On the health authorities receiving notice of the outbreak of the disease, the sufferers are taken to the fever hospital, and the house, bedding, &c., thoroughly disinfected—and, as a consequence, the mother brings forth in safety; but, in spite of all precautions, the writer has known the newly-born to take the disease, and, more often than not, succumb to it, the mother, *possibly* protected by a previous attack of scarlet fever, to escape.

In the higher grades of society where the sick can have good medical nursing attendance at home, I should still counsel the *removal of the mother from the house* for her confinement, as soon as the disease shows itself. Amongst the wealthy and the great this is a matter of easy fulfilment, but the same, alas! cannot be said of our middle classes, though it may be more practicable, as a rule, to find a place of safety for the mother than the sick children, but the “isolation” of the mother is highly desirable for her safety and that of the coming babe’s.

With respect to her “isolation” there is another matter to bear in mind. Say, that in a family where there are four or five children scarlet fever breaks out—three are down with it, two are free, and have *never* had the disease; it would be decidedly imprudent to allow those “exempts” to accompany the mother in her removal, as they might become sources of infection, coming from a house where scarlet fever was to one where it was *not*, and hence jeopardise her safety whilst lying-in as well as the infant’s. But if, on the other hand, children *who had had scarlet fever* were sent away with the mother from the house, the risk of any chance of mischief would be greatly diminished.

Let us again assume that we can neither have the sick nor the mother removed from the house; and numbers of such cases have come under the knowledge of the writer, especially in former years. We must rely upon vigorous preventive and antiseptic measures. The room where the sick children are must be cleared of all superfluous furniture, especially carpets and curtains, which should be *at once sent out of the house* to the cleaners, with instructions to disinfect same; the closest attention should be given to the

disinfection of room, and everything used by the sick ; it should also be kept ventilated *day and night*.

The room where the mother is to be confined must also be cleared of superfluous furniture, especially *wardrobes* and *drawers*, or ottomans. The chamber shut up, the cracks and keyhole of the door stopped, and a sheet hung over the outside ; the window closed and the room *stoved*. Sulphurous acid gas is a most *potent aërial germicide*, and, in a case like the one we are assuming, the writer *relies* upon nothing else, and if all these measures are carried out we may hope, through God's blessing, that the mother will get safely through her trouble, and the infant's life be spared.

There is another little precautionary measure as regards the mother's safety, prescribed by some medical men, the topical use of boracic acid flour blown into the pharynx twice a day, or a gargle of glycerine and borax equal parts, and diluted with distilled water or water *that has been boiled*. Use night and morning. This gargle is also useful to other members of the household where there is scarlet fever in the house.

Strict attention to the disinfection (especially in our homes) of the closet drains, and the *kitchen* and *upstairs* sinks, as they open into the house, and Calvert's rough carbolic acid is about the most efficacious for the purpose.

Nor must the all-important subject of the *ventilation of the house* be overlooked ; the staircase windows should be left partially open for that purpose, also the *other windows*. Nor should foliage plants be forgotten, such as the eucalyptus, in rooms and landings. The prime object of ventilation is to facilitate the egress of *stale* air, and the ingress of *fresh* air ; disinfectants being merely *germicides*, with the exception of permanganate of potash, which is an aërial purifier as well as foliage.

Whilst we may say that all the zymotic diseases are hazardous to the newly-born, they are not equally so to the mother ; for instance, whooping cough does not affect the maternal safety, nor measles of a normal type to any extent, but the babe may suffer from either, and the former, from the bronchial complications, is dangerous to the infant. I advise that the infant be kept carefully apart from other

children in the house who have the disease—whooping cough—and, weather and other circumstances permitting, that baby should be removed to another house, if only on the “other side of the way” as soon as practicable, so as to minimise the risk of catching the disease.

Before concluding the subject that has occupied us so long—viz., the manifold perils that beset the tender life of infancy—there is one I would fain omit, for it is the saddest of all, familiarly called breast suffocation, and every year numbers of infants, often fine healthy babes, are lost through it.

On the face of it, this calamity would appear to be outside the range of Obstetric Nursing, but I think I can show my young nursing readers that it has a distinct point of interest in our portion of nursing work. Our first feeling is one of anger, as we are apt naturally to attribute the disaster to crass, if not criminal, negligence on the part of the mother or nurse, and, unhappily, such in a large number of cases is only too true; but not *always*, and therefore we must temper our judgment with mercy. For instance, a poor working mother, wearied out with a day of toil, might during slumber overlay her infant, as well as the inebriate and careless mother. And, again, infant suffocation may be brought about by other causes than overlaying, nay, even by an honest though mistaken endeavour to avert that possibility. And this brings us to a subject I have dwelt upon in my Manual of Obstetric Nursing, p. 181, to which I refer you, viz., the *careful placing* of newly-born infants in cots or beds, and reasons for same.

The risks of breast suffocation are greatly enhanced by an unwise practice on the part of the mother of letting an infant sleep on her bosom *at night*, because, during slumber, any change of posture in mother or babe might lead to the overlaying of the latter, hence it should be placed away from the breast when not suckling. And the question arises *how* and *where* are you going to place the infant? All infants have a tendency to lie face *downwards*, for the slender neck affords no support to the heavy head, and hence the infant should be placed *level* on the bed *flat* on its back and face *upwards*. Now it is not unusual for mothers to place babies on the pillows for safety (?) whilst they

sleep, say during the day, and in such a way that they lie on a sort of *inclined plane*, the head rolls off the pillows and baby falls face downwards, and if *not* discovered is *suffocated*. The writer has known *two* instances in which this catastrophe occurred from the same cause, *careless placing*.

CHAPTER IV.

CONGENITAL MALFORMATIONS.

HYDROCEPHALUS—PERILOUS TO THE INFANT—ANENCEPHALUS
 —FATAL TO THE INFANT—DEFECTS OF THE EARS—CARE
 OF IN INFANCY—FACIAL DEFECTS—HARE-LIP—CLEFT
 PALATE—"PIG-FACED" INFANTS—MALFORMATION OF THE
 INTESTINE—ATRESIA ANI—MECHANICAL CONSTIPATION—
 INTUSSUSCEPTION—SYMPTOMS OF—DYSPEPTIC CONSTI-
 PATION—UMBILICAL—INGUINAL—SCROTAL HERNIA—
 PHYMOSIS—MALFORMATION OF THE UPPER EXTREMITIES—
 WEBBED FINGERS—SUPERNUMERARY FINGERS—"DOUBLE
 THUMBS"—DEFECTIVE HAND—DEFECTIVE ARMS—FRAC-
 TURE OF—CONGESTION OF—MALFORMATIONS OF LOWER
 EXTREMITIES—TALIPES VARUS—TALIPES VALGUS—CON-
 GENITAL PARALYSIS—NÆVI MATERNI—KINDS OF.

CONGENITAL malformations may arise either from an imper-
 fect or abnormal development of some one or other of the
 foetal organs, internal or external, during intra-uterine life,
 or to a persistent form of some lower type of organic struc-
 ture, and these defects only become manifest at the time of
 birth.

I shall merely touch, in this chapter, upon some of the
 more common forms of these malformations, and point out
 to what extent they affect the health, or, in some instances,
 jeopardise the lives of the newly-born.

I will commence with the head, taking its two divisions
 —the cranium and the face.

With regard to the former, the cranium sometimes
 becomes enormously enlarged during foetal life by an effusion
 of fluid from the arachnoid or secreting membrane of the
 dura mater, the fibro-serous membrane that incloses and
 protects the brain, and, like all the other serous sacs in the
 body, it is a closed cavity, and hence, as there is no possible

escape for the effused fluid, the foetal head becomes abnormally large. This disease is called hydrocephalus. One effect of the lesion is to seriously increase the perils of parturition, and there are three ways in which delivery may be effected. 1st. The natural powers. 2nd. Forceps. 3rd. Perforation of the head with a trochar, which, by liberating the fluid, causes the head to collapse; nor is this operation necessarily fatal to the infant. As far as the writer's experience goes, the *first* and *third* methods more conduce to the infant's safety than the *second*. The hydrocephalic head is not readily compressible, nor can *pressure* diminish the quantity of the fluid, and the soft, fluctuating globular tumour is not easily grasped by the forceps. However, this is a midwifery question, though not without interest in Obstetric Nursing. We will assume that baby is born living, and that nurse has at once a little invalid on her hands, for a watery head is a serious malady, and requires medical care from the first, and nurse has only to carry out medical directions. The care of the head is in the nurse's hands; it must be most carefully supported on a pillow, and the infant moved about on it, and when bathing, dressing, or *changing*, it must be placed across her knees so that the head is never allowed to *hang down*, for *careful* and *constant* support to the enlarged and heavy head is a matter of *first* importance in these distressing cases.

With regard to feeding, the infant can take the bottle without any trouble, but breast feeding is rather more difficult, as the breast has to be taken to the infant, instead of the infant to the breast, as is usual, on account of disturbing the head by movements. When the maternal milk flow is abundant, a *long-tubed nipple shield* must be used for suckling, so that the infant can take the milk from the breast as he does the bottle—lying on the pillow. If, however, the mother's milk is deficient in quantity, or not sufficiently nutritious, it would be better for the infant to have a wet nurse than to have recourse to bottle feeding.

I will now turn to a rarer and quite opposite condition to hydrocephalus; instead of an enlargement, we get an abnormally diminished size of the head and a collapsed cranium, and from the peculiarly flattened out appearance of the head and face, these infants are popularly called cat or dog-

faced infants, and very strange myths have been evolved to explain (?) this abnormal but none the less accountable malformation. Infants so born are called anencephalic; they are stillborn, and hence the cases are of more interest in a midwifery than a nursing sense, especially as the peculiar condition of the head renders the diagnosis somewhat obscure. There are no difficulties nor dangers attending delivery, and for the most part the mothers do well. As obstetric nurses you may have opportunities of seeing a case of this kind, and I hope the little I have told you about them will guard you against giving credence to the "dog-faced" legend.

Before leaving the subject of the head, we will mention the ears, that may almost be called its appendages; with the exception of the lobes, they are for the most part composed of cartilaginous tissue, and, as regards external configuration, they vary considerably in shape. The normal ear is placed *close* to the head, it is small, firm, and compact; the lobe delicate. Like some of the other *external* organs of the body—*i.e.*, the nose, hands, and feet—perfection of form is said to be largely due to hereditary transmission, and we know that all the characteristics of these organs are observable at the time of birth.

With respect to the ears, we will touch upon some of the more common deviations from perfect form that we notice in the newly-born. Instead of the ear being placed close to the head, it stands away from it, and that to such an extent as in after years to constitute a deformity. At times one or other ear may be "flapped"—*i.e.*, instead of the helix being firm and erect, it is loose and flabby, and turned over like a dog's ear. This condition may be only temporary, due to the ear getting bent by pressure during delivery, and some nurses tie it back with a piece of narrow tape passed round the head; but when both organs are affected, it may be regarded as a congenital defect.

Care of the ears is at all times necessary; for instance, *pressure* on them during slumber should be avoided, as it may occasion "crampy pains," and when bathing the infant be careful not to let water or soap get into the ears. We all know how painful "water in the ear" is to ourselves; the same may be said of pressure, and we can

quite understand what a baby must suffer under similar accidents (?)

We now come to the face troubles; sometimes at birth we get an abnormal enlargement in a downward direction of one or both cheeks, and, in the latter case, when accompanied by certain labial deformities, constitute in the future the so-called "pig-faced" ladies and gentlemen who are such valuable "exhibits" for the enterprising showmen of country fairs.

The writer had a case in her own practice, in which a fine, healthy male infant had an enlarged right cheek—he was rather "too cheeky" in fact, and the right corner of the mouth was dragged down lower than the left, and when the child was applied to the breast, the milk ran out of his mouth faster than down his throat, and the chest was kept in a continual state of saturation from "slobbering." Under this rare condition of things we may use a *waterproof* bib, made of very thin mackintosh, bound round with ribbon to keep it in shape, to be placed *under* the ordinary bib, so as to keep the infant's chest dry; or you can also make a bib of the absorbent sheeting to put *over* the waterproof, to help to soak up the wet caused from the constant dribbling of the saliva.

This malformation does not much affect the infant's health. When I last saw my little patient, he was a healthy four-year-old, but the right side of his face was more "cheeky" than ever, the mouth unclosed, the slobbering incessant, as he could not swallow the saliva which ran over his chest and kept his jacket constantly wet. His mother told me he suffered from incessant thirst, and whenever she took him out she had to provide drink for him.

The most frequent facial malformations are those affecting the upper lip and mouth; anatomists tell us we are made up in halves, and it would seem as though these "halves" were not always brought into perfect apposition, and disfiguring clefts or fissures result. In the former case, the lesion affects the upper lip, which is divided into two slightly unequal divisions by a cleft or notch on one or other side of the median line, extending from the lower part of the lip to one or other nostril, and infants so born are said to be hare-lipped, and until surgical skill was directed to this malforma-

tion, it remained a permanent and sinister disfigurement to the face. The lip was drawn out of place, it could not cover the teeth, which showed between the rent, and the peculiar appearance it presented possibly led to the familiar term "hare-lip." To this day hundreds of mothers ascribe this disaster to "frights" from rats or rabbits whilst carrying. One of my patients was "scared" by a black rabbit that escaped from his hutch and got into her bedroom, running across her bed, and the harmless fugitive was credited with having caused the very bad hare-shorn lip poor baby brought into the world with her. I always listen with an air of profound *credence* to these maternal explanations (?) for, after all, mothers *may* know as much as any of us, *c'est à dire fort peu de chose*.

In the simplest form of hare lip—a single notch, a slight operation has to be performed, but this and all others for the rectification of malformations are in the domain of reparative surgery, which in skilful hands confers a boon upon poor disfigured humanity, especially when the lesion mars the beauty of "the human face divine."

Most surgeons are in favour of early interference. The writer has seen the operation done the day after birth, but, as a matter of practical nursing, she should advise its postponement until after the shedding of the cord, which is our baby's first trouble, and it is best to take troubles *one* at a time. The opposite surfaces of the notch are sometimes brought together by simple suture of surgical silk, or by needles and silver wire. As far as a limited experience goes, I have seen better results from the former; it seems less irritating to the infant. There is always slight loss of blood, and some of it gets into the mouth and is swallowed, and passes through the bowels, so nurses must be prepared for that contingency. After the operation, baby's arm will have to be fastened down to prevent the hands from reaching the wound, and this slight, though necessary, restraint, always appears to be trying to our little patient, for, when awake, his arms are in continual motion, generally in the direction of his mouth; and any attempt to interfere with these doubtless salutary movements results in "cries." The baby has yet to be born who likes having his arms "pinned down"; but in this case, unfortunately, we must not regard his

wishes, for we have to secure the arms. There are two ways of doing this—either by fastening them *straight* down the sides of the body with a bandage or a silk handkerchief, or to tie them behind the back, which in my judgment is preferable. Cut a yard and a half of tape or sarsanet ribbon, not *less* than 1 in. wide, in half, *double* each length, and make a slip-knot on each ; pass the loop over the hand and outside the sleeve of the bed-gown to just above the elbow, and, drawing upon the two open ends of the ribbon, tighten the loop in such a way that it does not *close upon the arm*, nor can it possibly slip off, when you have tied the four ends of the ribbon in a bow behind the back, just sufficiently tight to prevent the arms being raised to the mouth, but allowing of a certain amount of movement in the fore-arms and hands. A bed-gown with sleeves so long as to cross over in front and tie behind answers perfectly.

Our next care is the feeding of our little patient. This will have to be done from the breast, or with a spoon ; for the hard disc of the feeding bottle presses upon the wound, but the *nipple* can be grasped between the gums, and the *point d'appui* for the tongue being the nipple which is *inside* the lip, sucking can be gone on with ; and if the mother does not suckle, a wet nurse should be procured for this and similar operations of a severer kind, in the interests of the baby. Spoon feeding is, of course, more troublesome, and less satisfactory.

We have touched upon the simplest form of hare-lip, but the malformation is sometimes intensified into what is called the double hare-shorn lip. The fissures extend close into the nostril, the gums show between the rent, and at the time of birth *appear* to be attached to the nose. This peculiar effect adds greatly to the disfigurement caused by the lesion, and this again can be complicated with more serious and more extended malformation—*cleft palate*—when a communication is formed between the oral and nasal cavities ; and this greatly adds to the anxiety and trouble of the nursing duties. As regards the palate, nothing can be done immediately, but the lip can be rectified. We may have cleft-palate without hare-lip, hence no external disfigurement. When you wash out the infant's mouth at birth, you pass the bulb of your little finger up to the roof. If cleft you discover it at once. Failing this, it

is only found out by the milk returning through the nose when the infant is put to the breast or bottle. Occasionally the *soft* palate is the seat of the lesion, and it can only be detected by examining the mouth. And now increased difficulties in feeding arise, and the milk runs out of the mouth instead of down the throat. In rarer cases still, the cleft extends through the *soft and hard* palate, and the risk of choking adds to the troubles of feeding. Infants so afflicted are rarely reared. As far as the writer's experience goes, eight to ten weeks is the span of their lives; as the infant gets older you cannot get sufficient food into the stomach to support life, and the little victim dies of slow starvation. By what I have just brought before their notice my young nursing readers can see that altogether cleft-palate is more serious to deal with than hare-lip, even in its severe form. It also affects the articulation. Speech is due to the vibration of the vocal cords. The normal palate, which should be *high* vaulted, may be likened to a sounding-board, giving a resonance to the voice which the artificial palate does not.

There is another point to bear in mind with regard to our little patient in cases requiring operation—the effect of shock. Speaking generally, we may say that operations are detrimental to infantile well doing; and, whilst sparing no efforts to minimise the evil, we must bear it in mind. These remarks apply more to the home than the hospital, because, in a surgical sense, the operation *per se* is successful and complete; but the writer has known many instances where the infants did not permanently overcome these troubles, and hence have not been reared.

Malformation of the Intestine.—The most frequent and simplest of these affects the rectum, and surgeons call it atresia ani, or imperforate anus. Here the rectum ends in a blind pouch at its inferior part. This lesion is easily detected at birth by a nurse when the infant is lying across her lap, face downwards, when taken from his bath, *and it is as well to make a point of examining the anus* on these occasions; but it frequently happens that the first wash is done under stress of duty or fatigue, and the matter escapes notice, until the absence of the usual discharge of meconium leads to further investigation. And here let me give

a little word of warning to my young readers. *Before* giving purgatives to newly-born infants, *examine the anus* and do not dose in the dark! We will assume that it is the second day from birth, and no meconium has passed; we examine the anus and we observe its orifice closed by a tense membrane, and possibly a slight pouching due to pressure from above. You can meet this trouble temporarily in a safe and simple manner in this wise: Take the blunt end of a poultry feather or quill toothpick, assuring yourself that the ends are smooth and clean; lubricate with vaseline. Place a napkin under the buttocks, and lay the infant on his back; press gently and firmly on the obstruction in an upward direction, and the effect will be the liberation of the meconium. The writer has known this little plan to be quite effectual. In these cases I should advise a dose of castor oil to favour pressure on the rectum and secure the complete evacuation of the meconium. A pledget of lint, steeped in oil, should be applied to keep the orifice patent. Of course, a case of atresia ani must always be reported to the doctor, and you must state what you have done. I merely suggest this little plan to my sister workers in midwifery to save time, which, in country cases, is very important. When the case is treated surgically, it is more severe as far as baby is concerned, and there is a risk of secondary hæmorrhage, which does not exist, in the simple treatment, and you must be prepared for it. When the operation is decided upon, the infant must be laid on his back, the clothes turned up over his head, the buttocks supported on a pillow and raised above the head, and a napkin placed loosely under them. The puncture of the membrane is generally made with a straight bistoury; there will be slight hæmorrhage in most cases, and nurse must keep a watch on the rectum for the first twenty-four hours after the operation. A neglect of this precaution, and the absence of medical instructions to that effect, nearly led to a fatal case of hæmorrhage in the writer's experience not long since. When changing the napkins, look to see if any blood is flowing from the bowel; if so, apply cold water dressings to the anus; if the hæmorrhage *increases*, send to the doctor at once, stating the case; but this complication does not often occur. As the object

of interference is to liberate the meconium, when that is effected the infant is free from pain and danger.

With regard to the more serious congenital malformation of the intestine, involving not only the rectum, but the colon, and necessitating surgical interference of a serious kind ; these operations are at all times hazardous to infantile life ; they are for the most part hospital cases, and therefore we need not dwell upon them.

There is also another malformation of the intestine, not amenable to surgical treatment, that we sometimes see in the newly born. The seat of the lesion is the small intestines, a portion of which slips or is drawn down into the continuous *inferior* part. This accident is called intus-susception, and the inflammation and swelling which arise increase or complete the obstruction. The symptoms are stercoraceous vomiting, absence of stools, pain, tenesmus, and severe attacks of colic marked by loud cries. Food cannot pass the intestine, and the little victim sinks from exhaustion or convulsions. Opiates are given to lull pain, but these and *all other remedies* are in medical hands.

So much for mechanical constipation ; but we may have constipation in the newly-born from various causes, such as sluggish action of the bowels, torpidity of the liver, bile not being secreted in sufficient quantities, or from some obstruction in the gall duct not passing into the intestine, upon which it exerts a natural purgative action. The writer is also of opinion that the *diet* of the mother during pregnancy may exert an influence inducing infantile constipation ; but, however, be the causes what they may, constipation in which the symptoms do *not* point to mechanical obstruction, will have to be met by medicinal remedies. If, after feeding with uncooked starch, starch granules are found by the microscope in the stools, the intestinal canal must be pervious.

The meconium, popularly called the "black motions" of the newly-born, is a dark-green viscous substance peculiar to foetal life. It has also been called digested blood, and we know that a large portion of the arterial blood conveyed by the umbilical vein from the placenta for the nutrition of the embryo, is directed to the liver, and hence the great size of that organ. One function of the liver is

the secretion of bile, strained off through the hepatic ducts, and stored in a special receptacle called the gall bladder, and thence the secretion is passed along the gall duct to the intestine, upon which it exercises a natural detergent and purgative action, tending to free the foetal system from foecal waste; and the meconium is a waste product, contained and retained in the large intestine up to the end of gestation, when it is voided in variable quantities and uncertain intervals soon after birth. Under certain conditions the meconium may be passed before, or during, birth, and that in quantities so profuse as to be injurious to the health of the newly-born.

Bearing these few facts in mind, let us thoughtfully ask ourselves if there are any agents, other than *medicinal*, available in the matter of infantile constipation? We shall find there are *two*, one thermal, and the other maternal; the former is due to the *hot* bath, 106 degrees, so essential for the perfect cleansing of the skin of the newly-born, and not only this, the writer is profoundly of opinion, from no small experience, that the bath exercises a most safe and salutary influence on the bowels as regards the meconium, for in the vast majority of cases it is passed a few hours after the birth, and at intervals, for the first day or two without *pain* or *straining*. On the third day from birth, you repeat the hot bath, with the same beneficial results; and by that time the motions are paling in colour and altering in character, and this *gradual* removal of the meconium goes on until the intestine is emptied of it.

The next agent is the *colostrum* of the mother's milk. It is the opinion of obstetricians, and certainly borne out by practical experience, that this singular constituent of the *first* secreted milk, after delivery, exerts a purgative action on the infant's bowels. Sometimes it is ejected from the stomach, serving to cleanse it from the bile, mucus, and acid fluid contained in it at birth. The presence of the colostrum in the milk synchronises with the passing of meconium from the bowels, and it is only by the third day from birth that the milk assumes its normal characteristics; the motions alter in hue, becoming yellow from the bile mingling with the casein of the milk, which also gives the natural consistency and character to the motions, and our

baby has been bridged over the gulf that separates his two existences—the unborn from the born !

From these few considerations we can see with what consummate wisdom Nature fulfils her ways, and hence pause before, with heedless, reckless hand, we interfere with them, by a “dosing,” more often than not unnecessary, but, alas ! none the less mischievous.

There is another point to bear in mind with respect to the colostrum. As it only exists in the newly-confined mother, we cannot have it in hand-fed or wet-nursed infants, and hence we are more likely to have to confront constipation in the newly born, and, as a consequence, resort to medicinal remedies ; and hence we see how infinitely better is *maternal* feeding for the infant, even if only for five or six weeks, than any of those alternative measures we are thrown upon for the nourishment of our little patient.

To return to the subject of infantile constipation. What is it ? A temporary suspension of the muscular movements of the bowels, leading to a retention of the usual excretions. Now, we find that the intestinal tube is divided into two principal portions—the upper, or small, intestine, and the lower, or large, intestine ; and Nature devolves two very different functions to those parts—briefly stated, to the former *assimilation* or digestion of food ; to the latter, the storage and final *elimination* of the refuse. The small intestine begins at the pyloric orifice of the stomach, and ends at the cæcum ; it is lined by a sensitive mucous membrane, and is intensely convoluted, so that a large amount of *surface* is packed into a small amount of space. The large or lower intestine begins at the cæcum and ends with the rectum, the only portion of the bowel that is *straight* ; this portion is contained in the pelvis, and terminates at the sphincter ani. The large intestine possesses a peculiar structure that anatomists call *sacculated*—a needlewoman would say “puckered”—and these little spaces are the sacculi of the colon, and the contents of the bowel are conveyed *gradually* from sac to sac by the singular wave-like muscular action that is called peristaltic, until they are accumulated in the rectum in order to be voided from the system at convenient times.

From this brief, and necessarily imperfect, outline of the subject, we can see that constipation may be due to causes affecting either the small or large intestine; in the former case it may arise from mal-assimilation or imperfect alimentary digestion, commonly called dyspeptic constipation; in the latter, from some hindrance to the proper elimination, or removal of the waste products of digestion by the colon.

In the newly-born the meconium contained in the intestine may not always be evacuated at the usual periods or in the usual quantities, and this is a familiar form of infantile constipation, and, as I have just mentioned, is better met by *external* than by internal remedies. In a few days after birth the motions become paler in hue—light green instead of dark—a *perfectly natural* transition, but too often met by nurses by *unnecessary medication*—and poor baby's first troubles in that direction begin. Soon after this paling down of the first motions, another change takes place in the *colour* of the evacuations. And here I must ask the attention of my young readers to this matter, because, simple as it may appear to you, it is of great importance for you to understand; it falls so completely under the observation of the nurse; it is better for her to know something about it, in order to avoid errors disastrous to her little patient. When the casein of the milk becomes mingled with the bile in its passage through the bowels, the motions become tinged with the bile, and are yellow, and this characteristic is maintained during infancy.

Now, it sometimes happens that the bowels are not sufficiently relieved, or the motions are firmer than natural, and hence there is straining and pain, mostly in the colon, and poor baby gives vent to his woes in piteous cries, and still more piteous looks; the little face has a most dejected expression, and the knees are drawn up towards the abdomen, which is tender and sometimes tympanitic. We may conclude, then, that there is obstruction in the bowels that must be removed by some kind of purgative. To *begin* with, there is nothing simpler nor safer than castor oil, which should always be of the very best and purest quality, and I advise a nurse to have a bottle by her to fall back

upon, *when necessary*, in times of need, such as a country case, or requiring the medicine at night, for delay will only add to the miseries of baby. I have told you how to administer castor oil to an infant, and a great deal goes to the *how*—so I need not repeat the instructions. Another point is, shall we give it plain or mixed with something else—a popular addition being syrup of rhubarb—but this is a good deal a matter of choice (I don't mean the baby's); for my own part, I do not see the need for giving two purgatives at once, but in these cases there is often flatus and colicky pains. Ten drops of pale brandy added to the oil will relieve these symptoms, and one dose (teaspoonful) will suffice to get the bowels moved. Should, however, a recurrence of the constipation take place in a few days after dosing, we must not too hastily repeat the treatment, simple though it may appear, without medical sanction, for we must remember that it is the tendency of purgatives to force the action of the colon, and if this process is too often repeated, we interfere with the gradual, almost rhythmical, muscular movements of the bowels, so essential to infantile health.

Whilst upon the subject of purges, we may mention enemas. In my judgment, they are not to be commended, nor do I advise a nurse to give them to baby without advice. When you have to do so you must have an infantile enema—a 4-oz. india-rubber syringe with a slender $1\frac{1}{2}$ -inch nozzle. An ounce of fluid is sufficient for an infant—soap and water is a popular form of injection, or a thin gruel with a teaspoonful of castor oil. There is also a mechanical application that, though in favour with nurses and mothers, I strongly deprecate, *viz.*, a plug of yellow soap inserted into the rectum, and left there in order to excite an action of the bowels.

Except in rare cases where *nutritive* enemata are required I never recommend them for infants. As regards rectal troubles, there is nothing simpler nor safer than a glycerine enema, about a teaspoonful at a time. Place the infant on his back, the buttocks slightly raised on a pillow so that the glycerine can be retained in the rectum as long as possible.

With respect to dyspeptic constipation, I shall say but little, as we do not intend to feed “our” baby upon

“starchy” compounds of any sort; and if we get constipation, it will most likely be due to serious constitutional causes that require very skilful medical care, and the nurse will have to carry out instructions; but the nursing skill will very greatly aid the medical treatment.

Whilst upon the subject of intestinal malformation, we may mention congenital hernia, umbilical, inguinal, or scrotal. The first does not show itself until after the shedding of the cord, when the umbilical cicatrix becomes the seat of a cylindrical or conical tumour, into which a portion of the intestine or omentum protrudes. This hernia can be reduced by a compress and bandage in the way I pointed out to you in my Manual of Obstetric Nursing, p. 195, and I earnestly advise nurses and mothers never to neglect this little defect, especially in female infants, as it might become a cause of serious umbilical hernia in adult life. A few days after birth a small swelling or tumour may be detected in one or other inguinal region or both, and this fact should *at once* be brought under the notice of the doctor, as the rupture is apt to rapidly increase if measures are not taken to reduce it. In scrotal hernia, a portion of the intestine slips into the genital sac, where it can be detected on touch by its peculiar feeling of firmness; but a nurse must not conclude that every case of scrotal enlargement is due to *hernia*. It may arise from comparatively simple causes, such as distention by serous fluid; and at birth the scrotum may be distended from temporary causes such as birth pressure, but the swelling subsides in a few days. As the genitals are external in male infants, there is always great need for carefulness in handling when bathing or changing them; the scrotum is liable to excoriation from the urine—to chapping from not wiping the part *perfectly* dry with a soft napkin after sponging or bathing. In male infants, I advise that the genitals be sponged every time the napkins are changed, and when wiped dry, powdered with starch or vinolia powder—chafing is really due to careless nursing. If the scrotum be tense and inflamed, careful lubrication with vaseline is soothing, or sometimes cooling lotions and cold applications are necessary, but you will have to take the doctor’s advice in this matter. If the excoriation arise from a turbid acid state of the urine, a grain of bicarbonate

of potash twice a day will relieve. Take a drachm of the salt dissolved in six ounces of distilled water, or water that has been *boiled*; give a teaspoonful in sugar and water once or twice a day; this simple remedy is, of course, good for female infants in case of excoriation of the vulva from the urine, and the need of perfect cleanliness of the genitals is the same in both sexes.

There are two causes that may lead to non-congenital hernia in very young infants—straining of the bowels during an action, or excessive crying, which has been said to occasion scrotal hernia. Good nursing will largely avoid these evils—first, by the proper feeding of the infant, and, secondly, by vigilance and gentleness.

There is a slight congenital malformation sometimes present in male infants, and peculiar to them, that all midwifery nurses should understand, as the matter naturally falls under their observation in the first instance, and they must pay careful heed to it.

The seat of the lesion is the prepuce, or foreskin. The effect of the lesion is dysuria in varying degrees. For instance, cases (1) where no water can be passed at all, surgical care required at once; (2) where the water is passed with difficulty, dribbles away; (3) where there is no obstruction to the flow of urine, but the prepuce cannot be retracted. The two first conditions arise from a complete or partial occlusion of the urethral orifice; but they are all included and distinguished by surgeons under the term *phymosis*, and the surgical treatment is *circumcision* in extreme cases (like the first-mentioned)—a preternatal constriction of the orifice of the prepuce, so that the glans penis cannot be uncovered. The operation must be *performed at once*, and it is a very general opinion of the surgeons of the present day that it should be resorted to in *all cases* of *phymosis*. In the second case mentioned, the urethral occlusion being partial, there is no immediate occasion for surgical interference. The third case is one that should never be neglected; the prepuce has a natural power of retraction, but it sometimes happens that it is abnormally elongated, and the orifice unduly constricted, and the loose integument becomes irritated and inflamed, either by the urine passing over it or *friction against the napkins*, and the orifice of the

prepuce becomes red, swollen, and painful to the touch, and micturition is also painful; and all these troubles increase as the child gets older. In newly-born infants it is easy to push the elongated portion of the prepuce back. But I do not recommend a nurse to do this—1st, because it is apt to be followed by swelling and inflammation that might lay her open to the displeasure of her employers; 2nd, it is not really effectual; 3rd, because circumcision is the true remedy in chronic retention—a safe and simple operation (if we can call it so), which, when performed upon newly-born male infants, causes but little pain, leaves next to no disfigurement, and is a *certain* relief from those miseries that arise from a neglect of this peculiar but far more frequent malformation than is generally known.

As far as the writer's experience goes, parents rarely raise objection to circumcision if the matter is properly put before them, and it naturally falls to a nurse to draw attention to the defect in the first instance, and a good deal of weight may be attached to her opinion. But I need scarcely remind my young readers that circumcision should never be performed *without* the knowledge and sanction of the parents of the child. Homes are not hospitals, and there are people who object to it on grounds other than surgical. The period at which interference should take place will depend a good deal upon medical opinion and the nature of the case; but, speaking generally, it is better deferred until after the shedding of the cord, by which time our baby has got over the early troubles that attend his advent, and the maternal breast-flow is well established—two factors to be taken into consideration to promote his well-doing. There will be some local tenderness, and, perhaps, slight inflammation; in the former case, vaseline will be sufficient; and, in the latter, lint dressings dipped into cold water that has been *boiled*, or a simple cooling lotion such as Goulard water. The napkins should be fastened *firmly* round the hips, but *loosely* in front, and frequently looked to, so that they do not remain on too long after they are wetted or soiled.

There is another and opposite condition which consists of the retraction of a tight prepuce over the glans penis, with swelling of the glans so as to prevent its return; and

this requires surgical treatment so that the everted prepuce can be replaced as quickly as possible, and thus avoid the serious evils that arise from delay. We must ever bear in mind that the malformations we have just touched upon grievously interfere with the future comfort of the child; and as they are best remedied in infancy, the matter falls within the range of midwifery nursing. There is another cause of retention or dysuria due to the orifice of the urethra being imperforate, when an orifice has to be made at the proper site, and kept open by the occasional use of the bougie.

Whilst upon the subject of dysuria, I will touch upon the familiar cases of retention, or absence of urine, in newly-born infants. We know that urine is secreted during intra-uterine life, from the fact that it is passed during, or immediately after, birth, or it sometimes happens that one or two days may elapse, and anxiety arises on that account. Now, the two most frequent causes for the non-passing of urine are: 1st, absence of the secretion, the bladder is empty; 2nd, retention in the bladder; the first is of slight importance; the second, serious. How are we to know one from the other? By palpation. If we find on examination a fulness and tenderness over the pubic region, we may assume that the bladder is full, and resort to catheterism, and I advise an obstetric nurse to add an infantile catheter to *her* "stores," as she will have it to hand on the somewhat rare occasions we require it. In the first-mentioned case the tardy secretion of urine seems difficult to account for, though, as far as the writer's experience goes, no harm comes of it. In breast-fed infants a scanty secretion of milk may account for it; in this case give baby a feed of milk and water, or milk and barley water; this, with the warm bath and a gentle purgative, which tends to slight straining efforts, will put things right.

In female infants, dysuria may arise from an acid condition of the urine; inflammation of the passages, or, more rarely, a vascular growth at the orifice of meatus. Great care must always be exercised to keep the genitals clean, and I advise a plentiful use of vaseline, after washing or changing, to soothe the surfaces and protect them from irritation by the urine.

There is a distressing malformation peculiar to female

infants that consists in the rectal and vaginal canals forming a common cloaca, and surgical skill cannot always deal with it. In infancy, the lesion is of little importance, but it is in early childhood that the miseries that spring from it show themselves. It is easily detectable in very young infants, and hence would come in the first instance under the observation of the nurse, as the escape of the fæces *per vaginam* gives evidence of the mischief, which must always be reported to the medical attendant.

Sometimes there is a slight sanguineous discharge from the vagina; that, other things being normal, undoubtedly appears to come from the uterus, and these appearances give rise to a certain amount of alarm in the minds of mothers and nurses, which is unfounded, for, as a rule, no harm results from it. The daily bath, and perfect cleanliness, will be all that is required—the matter being rather one of interest than importance.

Spina Bifida.—This malformation affects the vertebral column, its continuity being interrupted at various points by a cleft or fissure through which the membranes of the spinal cord, being deprived of support, protrude and form a tense elastic, fluctuating tumour that varies greatly in size.

The seat of the tumour in spina bifida is a point of much importance. When in the cervical portion of the spine it generally proves fatal to the infant's life within a few days of its birth. It is least dangerous when seated in the lumbar and sacral regions. The cyst contains a colourless fluid, and is generally covered with skin; occasionally the tumour ulcerates, and, when inflamed or pressed upon, convulsions arise. A crucial point in these cases is the connection that generally exists between the cord, the nerves, and the walls of the sac; and the leading symptoms are due to inflammation of the spinal cord and its membranes, or to pressure on the nerve-cords.

Spinal bifida is sometimes associated with hydrocephalus, to which it is somewhat akin; the latter disease is due to a secretion of fluid from the arachnoid membrane of the brain, the former to an effusion of fluid from the arachnoid membrane of the spinal cord. In hydrocephalus there is no escape for the effused fluid, so it accumulates in the head; but in spinal bifida the cyst escapes through one or

other of the vertebral articulations, and cleaves or divides them—hence the name from bifid (to divide)—and the formation of an external tumour is the result.

The effect of the disease upon infantile health is extremely serious, and there are poor prospects of recovery; for the most part, the infant dies within a few days or weeks after birth, and during this period they are invalids. One point about spinal bifida is, that, as a rule, it does not materially affect the health of the infant *in utero*—many of them being fully developed—and at term. Afterwards, the effects vary with the seat of the tumour and its contents. As a general rule, the less it is interfered with the better; sometimes the amount of fluid rapidly increases, and in these cases the cyst is sometimes punctured to liberate it; and then, again, the surface of the tumour ulcerates; but, in all cases, the leading symptoms are due to inflammation of the spinal cord and its membrane, convulsions and paralysis of the lower extremities being present. The treatment of the disease is in medical hands, and a nurse has only to carry out her instructions. The two nursing points are, protecting the tumour from pressure, and dressing it when necessary; the prone position of the infant renders the former a matter of difficulty—pressure cannot always be borne on the tumour, and results in convulsions. We cannot place baby on his face, nor on his side for long—what can we do? We do not get hospital appliances in private homes, but the writer has found the following little plan serviceable. Take two very soft pillows, place them side by side, *crosswise* to the cot, lay baby over them *lengthwise* to the cot, and just at that point of the spine where the tumour is, say the dorsal region, *separate* the pillows so as to form a sort of little groove or depression, which will protect the tumour from pressure by keeping it raised from the cot bedding. The infant's head must be kept low and *not* overheated, the face well open to the air, for we must remember convulsions may occur at any moment, and hence the position of the infant is a point to be considered.

Congenital malformation of the extremities.—It sometimes happens that one of the extremities is deficient at birth, and, most frequently, the forearm or one of the upper

extremities is absent, and, in rare cases, the whole of the limbs are reduced to mere stumps, and all these failures in growth occur during intra-uterine life, and do not appear to affect the health of the fœtus, the infants being generally born alive and at term. An accident so singular as the spontaneous amputation of a fœtal limb has naturally led to much interesting discussion amongst obstetricians. Amongst others, two causes have been advanced to account for the lesion—arrest of development, and amputation. Now, amputation consists in the *removal* of a limb, or portion of a limb, *most* likely at an early period of gestation from some constricting cause, and it has been suggested that the funis becoming tightened round a fœtal limb, the circulation in it has become arrested, and that a portion of it below the ligature withers, falls off, and is finally dissolved in the liquor amnii, and no trace of it is visible. Another hypothesis considers that the constricting cause may be due to bands of false membrane, the result of inflammatory action, by which plastic lymph has been poured out, and becomes changed into membraneous bands or cords, which become fastened round the limbs and act as ligatures, and so lead to a spontaneous amputation of one or all of them. Upon these learned conjectures the writer does not presume to form an opinion; but when we reflect that the fœtus is contained in a closed sac, and develops in a fluid medium, and that both the sac and liquor amnii do not altogether resemble any other sac or fluid in the human system, such as the pleural or cardiac sacs, it is somewhat difficult to understand how “plastic exudations leading to false membraneous bands,” could effect the spontaneous amputation of the fœtal limbs. On the other hand, it appears more feasible that a frail fœtal limb, at an early stage of intra-uterine life, might become entangled in the manifold twistings of a lengthened funis, which, acting as a ligature, might lead to amputation in the way we have just described. There is, however, one point in these singular cases of defect that admit of no dispute at all—viz.: the completion and perfection of the healing process as regards the “stump,” that in adult life would delight the heart of any surgeon.

There are other congenital malformations of the limbs more familiar than those we have just touched upon, and

we will begin with the upper extremities, as they affect the hands: sometimes the fingers of one or both hands are "webbed," that is, united together by skin—most frequently two or three of the middle fingers are so joined. The writer knew a lady who had twin girls, both of whom had the fingers of both hands "webbed." Or, again, we may have supernumerary fingers, five on one or both hands, which gives a singular and sinister appearance; there may be two thumbs on one hand or both, a smaller thumb growing from the base of the normal thumb, but in no wise impeding the use of the hands. We may also have a baby with a little rudimentary finger hanging by a slender pedicle to the base of one or other of the little fingers, and they shake about with every movement of the hand like little bells. Popularly these singular excrescences are called "cherry" fingers—I have not the least idea why; but this we do know, they will have to come off speedily—it is surprising how rapidly they increase in size—and we shall do this by simply ligaturing the pedicle with thread or surgical silk, which you can dip into carbolic (and here I must digress to remark *en passant* that, in my opinion, *wetted* thread makes a firmer ligature for the cord, and less likely to cut down on to the vessels than dry). After a day or two the little fingers (?) begin to swell, and there is little redness round the base of the pedicle; then they turn black, and finally, in five or six days' time, wither and drop off, leaving a clean healthy scar.

There is another congenital defect affecting one or other arm, and showing itself as muscular atrophy or wasting, commonly called a "withered" arm. This lesion is sometimes associated with a misshapen hand, difficult to describe, looking as though it had been compressed or "crumpled up," and this remains a permanent disfigurement. These manual malformations are of interest in midwifery from a too frequent prevalence of an erroneous impression amongst mothers that they are attributable to a want of skill or care on the part of the attendant, and hence unfairly laid to his or her charge. An illustrious instance of this fallacy will occur to my elder readers, and all women engaged in midwifery nursing should be in a position to put the matter in the right light—that is one of congenital malformation.

At the same time, the upper extremities—one or other *arm*—may be injured by inevitable accidents connected with delivery; but, speaking from no small experience of difficult midwifery, the writer is not aware of any “accident” that could affect the hands.

Injuries to the arms may arise from two causes—fracture of the humerus, or intense congestion from the depending position of the arm. With respect to the first disaster, it is generally due to an extreme *width* of the foetal shoulders, and this may be coupled with an undue *narrowness* of the conjugate. In *theory*, it may appear to be almost an axiom in midwifery, that when the head has cleared the pelvis, all difficulties with respect to delivery are over; but in *practice*, this is not so, for arrest of the shoulders at the brim will, and but too often does, in careless hands, prove fatal to the infant from asphyxia. There is only one way out of the trouble, and that is to bring down the arm of what we will call the presenting shoulder; and, in the great *majority of cases*, this can be done without injury to the limb. But not always, for in critical conjunctures, possibly (though not invariably) complicated with pelvic contraction, the amount of pressure we are compelled to exert upon the arm fractures the humerus, and, surely, it is better for a practitioner to incur an unjust imputation of want of skill (?) than to let her little patient perish before her eyes! It is necessary for an obstetric nurse to have some knowledge of this trouble, because, being necessarily a witness of it, her testimony should be based upon *facts* and not *fancies*. The symptoms that mark the need for interference are the *increasing* turgescence of the infant's face, its *deepening* dusky hue, and gasping. With respect to the fracture, it is easily reduced if *promptly* attended to, being what surgeons call a green fracture.

The symptoms that result from the injury are the first evidences of its existence—*viz.*, swelling, redness, hardness, and extreme tenderness of the upper arm. When these are subdued, the limb can be set in little cardboard splints, rounded at the ends, packed in cotton wool, and bandaged *secundum artem*, and kept in position by a sling made with a soft handkerchief placed *crosswise* over the chest, so as to comfortably cradle the limb—the sleeve of the gown cannot

of course, be put on the fractured arm—and, in this conjuncture, the little barrow coat I described to you in my Manual of Obstetric Nursing, vol. 1, chap. 11, p. 168, shines with peculiar lustre, as it can be slipped over the dressings, and keep the infant warm about the chest. In all respects, nurse will have to carry out medical instructions. Washing will have to be substituted for bathing the infant for a time, and the least possible amount of dressing and moving about observed. However, these troubles will soon come to an end, and, as far as the writer's experience goes, she has never known any permanent harm result from the accident.

With respect to the second cause of injury to the arm—intense congestion—it may be brought about at birth, through a rare and unavoidable accident, that in midwifery we call prolapse of the arm, that from some cause or another slips from its normal position, and drops down before the head into the vagina. Delivery in this complication may be effected in three ways, viz.: 1st, version; 2nd, forceps; 3rd, natural efforts. Now, it is this last which, in ignorant hands, is apt to lead to the evil we are discussing; firstly, from allowing the arm to remain in a dependent position too long; secondly, from the great pressure to which it is subject during the birth of the head. It is a long time (it may be several weeks) before the circulation in the arm is restored, and it keeps dusky, cold, and powerless. Friction, warmth, and support to the arm are about the best remedies for the disaster.

Congenital malformations of the lower extremities.—The feet may have supernumerary toes, or be webbed as the fingers are, but the writer never saw a *double* great toe, on the lines of a double thumb, or there may be rudimentary or supplementary toes attached to the little toes, which we ligature off. I once delivered a patient of a baby girl—a sort of female Goliath of Gath—who had five fingers on each hand and six toes on each foot.

Deformities of the feet and lower limbs are of great interest and importance in midwifery nursing, because they are amenable to surgery (orthopedic) almost from birth, and the success of all treatment largely depends upon *good*

nursing and common sense. When we consider that from infancy to age the weight of the body is borne upon the feet and legs, we see how necessary it is that they should be composed of strong and sound material, and that material is bone, which consists of two portions—an animal and a mineral constituent. The former yields gelatine on boiling; the latter, for the most part, is made up of phosphate of lime. All the cartilaginous tissues, which are largely associated with bones in the joints, also yield some gelatine. We all know that if we subject bones to prolonged boiling, we extract the gelatine or jelly from them—the animal portion; if, on the other hand, bones are subjected to fire-heat and calcined, they are reduced to a powder, and that powder is phosphate and carbonate of lime, the former being nearly five times greater than the latter. In infancy and childhood the *animal* constituent of bone exists in much larger proportion, hence the bones are softer and more pliable than in adult life. From these few facts there is one obvious inference to be drawn, that, in order to form good bone, we must begin at the beginning, and supply it with suitable material from birth. A distinguished living authoress has written (not an hour too soon) upon brain-starved children. May I not also call attention to bone-starved children?

As a passing reflection, we know that both brain and bone tissue contain a mineral constituent. In the former it is phosphorus—the light-bearer—the most *unstable* of elements, the pabulum of every thought, word, and deed of the busy brain. The one structure is characterised by *stability* and strength, the other by ceaseless activity and waste, demanding incessant renewal and repair. But bone, like brain, must be *fed*. The splay foot, the bow legs, the knock knees, or the ungainly gait may result from crass ignorance in the matter of *bone nutrition*, as well as from “heredity” or “diathesis.”

In feeding infants, the value of barley must not be overlooked. All the cereals contain a mineral or bone-forming element. I have told you in my Manual of Obstetric Nursing how to prepare barley-water; but in this case it must be thickened by *prolonged* boiling, so as to form, on cooling, a sort of jelly; and this can be added in suitable

quantities, in lieu of water, to the "feeds" in hand-fed infants, or given with or without milk as a change feed in sucking infants; and nursing mothers should *daily* partake of farinaceous substances in *addition* to their ordinary diet. My patients are continually asking me about this or the other artificial food (?) for their babies, and I have one set reply to all inquiries on the subject: "Take the foods yourself, and then you can judge as to how far they will suit baby—pre-digest them for him." Salt or chloride of sodium is an important mineral element in food, and a small pinch should be added to baby's feeds; or, if breast-fed, the mother should take more salt with her food than under ordinary circumstances. For babies I rather prefer the purified and crystallised salt; about five grains at a time will suffice.

We must now return to our subject—congenital malformation of the feet. The two most frequent forms are known to surgeons as *talipes varus* and *talipes valgus*. In the former case (the familiar club foot) the foot is inverted so that the sufferer walks on its *outer* edge chiefly. The latter, a splay foot, is everted so that the patient walks on the inner ankle. In the normal foot the great toe is on a line with the heel; we tread on the ball of the foot, and the elasticity of the step depends a good deal upon the strong ligament of the heel, called the tendon Achilles. The beauty of the foot consists in the perfection of the tarsal arch, called the instep. Congenital defects of the feet are, of course, manifest at birth, and this leads us to the practical part of the matter—the treatment of *minor* defects. Though the same in character, they are of much less severity, and should at once be brought under careful management.

We are all born "pigeon-toed"—that is, the toes turn inwards. Under ordinary circumstances, when baby has had time to stretch his limbs, the feet get straighter; but sometimes this is not so, and they get more inturned every day, and, on the other hand, they may turn outwards, or one or both feet may be drawn too much upwards towards the leg. Now, if any of these defects be overlooked or neglected, the future shape of the foot may be interfered with, and, in due time, the *gait*, which often remains a permanent evidence of early neglect. Now, what shall we do in

these cases? Bearing in mind that in infancy the animal portion of the bone is in excess, and hence they are pliable and soft, we must turn that fact to account by using gentle, constant, and *well applied friction*, or rubbing, to the feet with our hands, not only daily, but many times a day. I have emphasised *well applied friction*, because a great deal depends upon *how* you rub; for want of a little thought in the matter the writer has seen the little foot constantly *turned* when rubbing in the wrong direction!

Place baby in a sitting position on your knee so that the legs and feet hang down by the side of your lap, and notice which way the feet turn. If *inwards* (varus), take the foot into your left hand, and, with a *firm* but light touch, press it *outwards* and rub along the *inner* edge of the foot. If the feet turn *outwards*, press them *inwards* with your right hand and rub along the *outer* edge of the foot. When the feet turn up too much, press them *downwards* by closing one or other of your hands over them. These simple manipulations, if persisted in, will serve to mould the foot into shape and remedy slight defects that, if neglected, are apt to increase. In fact, we may say that, under all circumstances, judicious rubbing of the baby feet prepares the way, both as regards bones, ligaments, and muscles, for that great epoch in infantile life—learning to walk.

And here I must diverge somewhat out of our department, though *we* (nurses) begin the task, to earnestly advise mothers and nurses *not* to hurry on that important process (at the almost certain risk of bow legs), but reverently watch Nature's wise and patient way of bringing it about. You know the old Greek conundrum: What animal walks on *four* legs in the morning, *two* in the afternoon, and *three* in the evening? "Our" baby begins in the morning by crawling on all fours, and this most salutary and natural action straightens the lower limbs and strengthens the dorsal muscles, and really prepares the way for walking on *two* legs in the "afternoon." And let us note how cautiously this upright position is attained, principally by falling down! The little limbs cannot support the weight of the body, and our baby gets a "tumble" when he tries to get hold of chair or table, and all we have to do is to take care that it does him no harm. As he gains strength, future efforts are

followed by more encouraging results, and the child stands up longer at a time without a "tumble." And here I must remind my young readers that *supporting* baby on his legs by holding him up under the arms does not strengthen the limbs and feet. Strength will come in due time. Do not force on walking. At last "our little toddlin' wee thing," having learned to stand on his feet, attempts *walking*, and here he wants a gentle helping hand to encourage him in this important step in life.

Before leaving this subject, I must give a word of caution against "go-carts." For a little child who can walk, they may be an amusing toy; but as a means of teaching him to walk they are a mischievous delusion. They overtask the strength of the limbs; they do away with that instinct of self-preservation or reliance on his own powers by which alone a child can acquire a good gait and carriage so graceful in children, and which will even abide when, in the fullness of time, he walks upon *three* legs in the "evening."

In infantile weakness of the feet and ankles, bathing them with salt and water is a popular remedy; but I do not advise this course without medical sanction. The sooner defects or deformities of the feet are put under surgical treatment the better the chance of rectification. In many of these cases early division of contracted tendons is needed.

There is one point about the topical use of salt to the feet that I will just touch upon, as it may be of some use to my sister workers. The value of *hot brine* fomentations in cases of sprained ankle or contusion of the foot. Have in readiness a saucepan of hot brine, made with Tidman's Sea Salt for preference, though common salt will do; dip a piece of soft old flannel of suitable size into the brine, take it out with a stick or a spoon, and, *without squeezing* or wringing, apply it when slightly cooled down. The writer can speak from personal experience to the relief and comfort afforded by these brine stupes; whether it is due to rapid evaporation, or from some property of salt, or what not, you can bear them out of the brine and on to a tender foot. They also retain the heat for a long time, which is a marked advantage, and they appear to penetrate the tissues, and in conjunction with warmth and rest, wonderfully assist the healing process. This simple remedy was prescribed

for the writer by a well-known Midland surgeon, who informed me it was much used in the Droitwich district.

Before concluding the subject of lesions of the extremities, I will mention one that affects the limbs though it does not deform them, and is in truth more distressing than any of the malformations touched upon, as it admits of no cure, and holds out the slenderest hope of recovery. Congenital paralysis: this may be partial or complete—in the former case one or other of the upper extremities may be affected, or both, but the lower limbs sound, or *vice versa*, or the infant may be paralysed on one side of the body and free on the other. In complete paralysis, the whole of the extremities are affected, and this does not always affect the infant's health, for it may live to grow up and be a hopeless cripple for life. In complete paralysis, the disease is apparent at birth, for the body of the child is expelled in the same manner as in still-birth. The listless arms fall straight down by the side of the body, the lower limbs are equally powerless, and, but that the heart beats, you might think baby was dead. It is a sad spectacle, this motionless infant, for under normal circumstances the limbs are all in full activity at birth, the arms in the direction of the mouth, where fists or thumbs are sucked, and the legs engaged in throwing off the "receiver," and every nurse knows we often have to cover baby over half-a-dozen times before we are ready to wash and dress him.

Both these necessary processes become increasingly difficult. The infant has a tendency to slip off your lap as though the body was dragged down by the weight of the legs, and when the baby is placed in the bath, the limbs will require keeping together—there is no help in them; and, except that the head does not droop, it is very like washing a still-born baby. Such cases are happily very rare, and hence it will take a nurse some little time to get used to this unusual condition of things. There are no special nursing duties; poor baby is an invalid, and you will have to carry out medical instructions. I earnestly caution mothers and nurses not to tamper with the disease themselves, and to turn a deaf ear to the multitude of amateur or advertising advisers possessing an infallible (of course!) remedy to "cure" the little sufferer, generally in the direction of

mystic embrocations or salves, or the drastic measure of cold-water douching to strengthen the limbs, and we know that what science fails to do ignorance is always prepared to accomplish at the expense of the patient's purse or life.

Sometimes at birth we see slight facial paralysis due to intense head compression during delivery—one corner of the mouth will be drawn down so that baby cannot suck for some days, or the eyelids “droop,” and one eye will remain closed temporarily, or this affection may become permanent. And these lesions are almost always accompanied by the shrill cries that mark brain injury in newly-born infants. As a rule, these troubles pass off, but in bad cases death takes place from convulsions in a few days from birth.

Before concluding the subject of congenital malformations, we must not overlook the most frequent and familiar of them all—that of the *frænum linguæ*—commonly called tongue-tied; and by a large number of mothers and nurses this perfectly natural bridle to the tongue is regarded as a defect, to be met, in popular opinion, by the somewhat drastic operation (?) of cutting baby's tongue! When the matter exists only in the maternal imagination, it is a matter of no importance; but when the defect really exists, it should at once be remedied. Under normal conditions, the *frænum* allows the tongue to be raised towards the roof of the mouth, and to clear the lower lip; and it is this latter action that is so important in suckling infants, for unless the tongue can be pressed well against the nipple, the infant cannot suck properly, and hence two things happen—the milk runs down the corners of the mouth instead of the throat, and baby derives so little benefit from his suckorial efforts that his poor little jaws are wearied out before his hunger is satisfied; and it is no exaggeration to say that he may starve in the midst of plenty! and it is evidently a case of doctor to the rescue! And this timely help simply consists in liberating the tongue by cutting through or breaking the edge of the *frænum*. A distinguished physician favoured the latter mode of procedure, and did it by a dexterous jerk of the chin. The more usual plan is to cut through the edge of the *frænum* with a pair of scissors; they should be short in the blades, *rounded* at the ends, and rather large in the bow. You open baby's

mouth, raise the tongue with the two forefingers of the left hand, and with the right place the scissors on the lower gum, and cut midway into the edge of the bridle—about the eighth of an inch, not more. The writer prefers to make her patient a collaborateur in the process by inducing him to raise his voice and his tongue as far as he can at the same time, and hence we know the whole extent of his powers in that direction. Simple as this operation may read, it is not unaccompanied by danger, because, in careless or ignorant hands, arteries or veins may be wounded, and serious, if not fatal, hæmorrhage ensue; and these remarks hold good in cases of *unnecessary* interference and the using of ordinary or *sharp-pointed* scissors—remember always to use a pair of *round-ended* scissors such as I have just described to you. A neglected case of frænum linguæ will lead to a permanent lisp. And the same may be said of a *short* tongue, and our frænum scissors are no help to us here!

In conclusion, I will say a few words about nævi materni, familiarly known as “mother’s marks,” so frequently seen in the newly-born. They may be defined as cutaneous spots affecting and disfiguring various parts of the body. There are a number of different sorts of nævi, but, briefly speaking, we may divide them into two groups, the vascular and the pigmentary. The latter include moles and dark-coloured patches of different sizes and configurations. They may be smooth or hairy, and the latter, when found on the back or shoulders of the infant, are called “monkey marks;” or when smaller in size, somewhat oblong in form, and covered with fine soft hairs, a “mouse,” and maternally ascribed to “frights” from these animals when “carrying.” Without disputing the popular nosology, I may safely affirm that these undesirable moles and “patches” are unimportant as regards the health of the infant; they are never effaced, nor do they diminish in size. Sometimes they should be excised at a convenient season in infancy.

The vascular nævi are of two sorts, smooth and diffused over a large cutaneous surface, or small and erectile. The former are found in pink or purple patches in various parts of the body; the most frequent examples of them are the

little pink patches on the eyelids or between the eyes found in newly-born infants.

Sometimes these pink or purple cutaneous discolorations assume rather curious shapes, generally in similarity to fruits, and they are popularly likened to currants, raspberries, strawberries, or cherries. They are found in various parts of the body, and are similarly accounted for (maternally) as due to "longings," for the aforesaid, just as the "mouse" and "monkey" marks are ascribed to "frights," and it is easier to accept than refute these remarkable hypotheses. I always leave my patients in the peaceable possession of their opinions.

When these purple patches are on the face, they constitute a serious disfigurement, and are popularly called "port wine" marks, and, unfortunately, they are quite ineffaceable.

The vascular erectile nævus, unlike the smooth, is amenable to surgical treatment, and can be effaced—hence its interest. The seat of the lesion is the capillaries. It has been defined by eminent medical writers as "consisting of morbid, spongy tissue, formed by an agglomeration of dilated and distorted capillaries inosculating directly and freely with each other. In some cases, arteries and veins, or both together, are affected. The nævus is generally situated in the region of the face, head, and neck. As the growth proceeds, the nævus becomes elevated above the cutaneous surface, and sometimes forms a soft tumour which may increase to a great extent. It is manifest at birth as a small red or purple spot, and it has a tendency to grow and dilate."

From this description we may see that an erectile vascular nævus more resembles a capillary than anything else; it is not hazardous to life, and it can be removed. The question of surgical interference depends a great deal upon the position of the tumour; if on the face or neck, it becomes necessarily conspicuous, and hence a disfigurement. Sex is also a matter for consideration—and social position. Supposing that a female child has a nævus at the root of the neck in the front, or in either of the clavicular foræ, it would certainly constitute a disfigurement, as society exacts that a woman is only *full-*

dressed (!) when half-clothed (like a mermaid), and hence interference becomes almost a necessity.

There are many ways used by surgeons for removing a nævus; in infants vaccination is resorted to for small cutaneous nævi, the number of punctures varying with the size of the nævus, the object being to produce a confluent vesicle. Setons also are used; several threads may be passed through the tumour with a fine needle, and left there till they give rise to suppurations. Escharotics are another method, or frictions to excite adhesive inflammation, with various unguents.

But the most certain and scientific method of obliterating a nævus is by ligature, and the one most in favour of our leading surgeons. Ligatures may be employed in various ways; thus, one or more needles may be passed through the nævus, turning a thread round it or them, and allowing the whole to remain for two or three days; this leads to strangulation and subsequent sloughing. Another method is to pass two pins at right angles to each other under the nævus, and a ligature tied tightly round the whole; the pins are withdrawn immediately, the ligatures untied four hours afterwards, and a scab forms which drops off at the end of fourteen days or so. By this means entire destruction of the nævus is prevented, but sufficient obstruction is caused to allow the blood in the tissue to become consolidated; the whole then atrophies and drops off, leaving scarcely any scar. The writer has seen excellent results from this last method.

Some of my readers may ask, what has all this to do with Obstetric Nursing? My reply is, that whatever concerns the newly-born is of interest in our portion of nursing work, and the nævi we have just been discussing are of special interest in midwifery from the fact that the lesion not only shows itself at birth, but there are good grounds for assuming that they are veritable *birth marks*.

We are often asked by mothers if these nævi (popularly called "cherries") are painful. We may assume *not*, in the sense of inflammation, but they certainly seem to give rise to a feeling of discomfort, to judge by the way in which infants try to pick them when within reach, such as on the face or neck; and, if the nævus increases in size,

this sense of irritation appears to increase. When operation is necessary, the infant requires great care, and, if he is breast-fed, so much the better, for there is no nurse like a mother.

I have now completed the second—Infantile—portion of Vol. II. of my work, in which I have dwelt upon the duties required for the care and treatment of the newly-born, which may be truly called the special feature of obstetric, or, I would rather say in this instance, monthly nursing, for the care of the infant extends to at least that period. Many of the duties required for the mother can be learned in any hospital, but the opportunities for a nurse acquiring, even in lying-in hospitals, a thorough knowledge of the newly-born—a period of life that resembles no other—is necessarily limited, under the present term of special instruction, and, to a large extent, the same may be said to the maternal portion of their duties, which are not entirely covered by corrosive sublimate.

It is the object of this little work (the outcome of a wide experience in midwifery) to fill up that void, and thereby be of use to, and strengthen the hands of, women engaged, or about to be engaged, in midwifery nursing.

EXAMINATION QUESTIONS.

PART I.—MATERNAL.

1. What do you understand by inertia?
2. What measures would you take to excite the muscular contractions of the uterus?
3. What is atony of the uterus?
4. Describe what precautions you would take, and how you would prepare a styptic solution for intra-uterine injection with a Higginson's syringe?
5. What styptic would you use, and of what strength?
6. Describe how you would apply compresses to the uterus after post-partum hæmorrhage?
7. In what form would you administer immediate nourishment to the patient?
8. What would you consider the best drink for the patient?
9. What do you understand by a hæmostatic?—mention anyone that may occur to you.
10. Suppose turpentine were prescribed, how would you give it to the patient?
11. What do you understand by præ-partum hæmorrhage?
12. In case of its occurring whilst you were in attendance on a patient, what would you do?
13. What are the appearances presented by a "white leg?"
14. Describe some of the nursing duties specially required for it?
15. In a case of convulsions occurring before labour what would you do pending the arrival of the doctor?

16. In case of insanity showing itself after delivery, what two points would especially demand nursing care?

17. In a case of puerperal fever, what antiseptic measures would you take as regards the patient?

18. What antiseptic would you advise for the washing of the patient's bed and body linen?

19. In what direction is puerperal fever intensely infectious.

20. Before leaving a case of puerperal fever, what disinfecting measure would be necessary as regards every article of apparel you brought into the house when you came?



PART II.—INFANTILE.

1. Why are breech cases especially hazardous to the infant?

2. Describe the conditions that sometimes result from these cases to the infant?

3. How would you treat them?

4. What are the effects produced by a face presentation on the infant?

5. How would you treat them?

6. What do you understand by still-birth?

7. What do you understand by suspended animation?

8. What measures would you take, and what precautions would you observe, to excite the pulmonary circulation in the newly-born?

9. Describe the signs of prematurity at birth?

10. Describe the nursing management of premature infants.

11. What is trismus?

12. What causes are assigned for it in infants?

13. What accidents of birth may cause convulsions in newly-born infants?

14. What would be your immediate treatment of an infantile convulsion?

15. What do you understand by the head being born in the membranes? What would you do in such a case?
 16. How would you recognise thrush? How would you treat it?
 17. What is coryza? What would you do for it?
 18. What is the cause of icterus or jaundice in the newly-born?
 19. What do you understand by cyanosis in the newly-born?
 20. What is herpes? How would you deal with it?
 21. How would you treat infantile constipation?
 22. What are the most frequent causes of infantile diarrhœa?
 23. What are the causes that lead to infantile bronchitis?
 24. What precautions would you take to avert it?
 25. What is talipes varus?
 26. What is talipes valgus?
 27. Describe the condition of the infant's feet in both cases.
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INDEX.

A.

ALBUMINURIA, 47
 Anacephalus infants, 164
 Artificial respiration, 104
 Atalectasis pulmonum, 112
 Atony of the uterus, 2
 Atresia ani, 169

B.

BLADDER, anatomy of, 8
 Bread poultices, how to make, 84
 Breech labours, 92
 " " danger of, to infant, 92
 " " effects on " 93
 " " management of, 94
 Breast suffocation, 161
 " " prevention of, 162
 Bronchitis, infantile, 141
 " " description of, 143
 " " causes of, 144
 " " management of, 145
 " " treatment of, 150
 " " nursing care, 153

Brow presentations, 96

C.

CATHETERISM, 11
 Coffee, how to make, 88
 Colostrum, 172
 Congenital malformations, 163
 " cranial, 164
 " facial, 166
 " upper extremities, 182
 " accidents to, 284
 " lower extremities, 187
 Constipation, infantile, 173
 " " treatment of, 175
 Convulsions, infantile, 109
 " description of, 110
 " treatment of, 111
 " puerperal, 46
 " " causes of, 47
 " " signs of, 48
 " " similitudes of, 51
 " " treatment of, 53
 Coryza, 114
 " causes of, 115
 " treatment of, 116
 Cyanosis, 112
 " cause of, 113

D.

DANDRIF, 129

Diarrhœa, infantile, 130

" " nervous, 131

" " dyspeptic, 134

" " description of,
135" " treatment of,
136" " medication in,
137

" " zymotic, 139

E.

ECZEMA, 123

" description of, 124

" treatment of, 125

" medication in, 126

Ears, defects of, 165

" care of, in infants, 166

F.

Face presentations, 94

" " effects on infant,
95" " management of,
96

Facial malformations, 166

Fever, puerperal, 54

" " causes of, 55

" " symptoms of, 58

" " treatment of, 59

" " diet in, 61

" " disinfectants in,
63

Frænum linguæ, 191

H.

HARE-LIP, 191

Hæmorrhage, post-partum, 1

" cause of, 2

" treatment of, 8

Hæmorrhage, post-partum :

" recovery from,
14

" præ-partum, 17

" symptoms of, 18

" treatment of, 20

" intra-uterine, 21

" " signs of, 21

Hæmatocele, 83

" signs of, 84

" treatment of, 89

Hernia, infantile, 176

Herpes, 126

" treatment of, 127

Hydrocephalus, 163

" nursing care in, 164

I.

ICTERUS, infantile, 133

Inertia, uterine, 2

" " treatment of, 22

Insanity, puerperal, 65

" " description of,
66" " nursing care
in, 67

Intussusception, 171

Intra-uterine styptic infections, 23

L.

LESIONS of childbirth, 70

Linseed-meal poultices, 90

" how to apply, 91

M.

MECONIUM, 171

" Mother's marks," 192

N.

NIGHTDRESS, best form of, 34

P.

PARALYSIS, congenital, 190

Perinæum, 72

" injuries to, 73

" causes of, 74

" treatment of, 75

" nursing care in, 78

Pemphigus, 123

Phlegmasia dolens, 27

" " cause of, 28

" " treatment of, 30

" " nursing, care in,
36" " recovery from,
41

Phymosis, 177

Pityriasis, 129

Premature infants, 97

" " signs of, 99

" " management of,
101

Prolapse of umbilical cord, 106

" " replacement
of, 107

R.

RECTO-VAGINAL fistula, 82

Red-gum, 122

S.

SPINA bifida, 180

Still-births, 102

Suffocation in the membranes, 108

Suspended animation, 103

T.

TALIPES varus, 187

Thrush, 116

Twin infants, 103

U.

URINE, retention of, 9

" " diagnosis of, 9

" " of, in infants, 179

" " treatment of, 179

Uterus, rupture of, 71

V.

VARICOSE veins, 85

" " dangers of, 86

" " treatment of, 86

Vesico-vaginal fistula, 79

" " similitudes of, 79

Z.

ZYMOTIC poisons, 158

" effects on infant, 159

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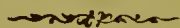
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	Sugar ...		2·68			
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Salts	0·40	0·45	0·13	0·33	0·20	0·13	0·35	0·21	0·72
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